

**Federal Communications Commission****FCC 99-230****Before the****Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of: )  
 )  
 Communications Assistance for ) CC Docket No. 97-213  
 Law Enforcement Act )  
 )

**THIRD REPORT AND ORDER****Adopted: August 26, 1999****Released: August 31, 1999****By the Commission:****TABLE OF CONTENTS**

	<u>Paragraph No.</u>
I. INTRODUCTION	1
II. BACKGROUND	2
III. DISCUSSION	12
A. General Comments	12
1. Scope of Proceeding	12
2. Definition of "Reasonably Available"	14
3. Retrofitting Equipment under Interim Standard	32
4. Compliance Date for Interim Standard	34
B. Particular Capabilities of J-STD-025 Opposed by CDT, EFF, EPIC, and ACLU	37
1. Location information	37
2. Packet-Mode	47
C. DoJ/FBI Punch List	57
1. Content of subject-initiated conference calls	58
2. Party hold, join, drop on conference calls	68
3. Subject-initiated dialing and signaling information	76
4. In-band and out-of-band signaling	83
5. Timing information	90
6. Surveillance status	97

	<b>Federal Communications Commission</b>	<b>FCC 99-230</b>
7.	Continuity check tone	102
8.	Feature status	107
9.	Dialed digit extraction	112
D.	Disposition of J-STD-025 Modifications	124
E.	Other Technologies and Systems	130
F.	Other Matters	134
G.	Summary of Findings	138
IV.	PROCEDURAL MATTERS	139
A.	Final Regulatory Flexibility Analysis	139
B.	Paperwork Reduction Act of 1995 Analysis	157
V.	ORDERING CLAUSES	158
VI.	APPENDIX A: FINAL RULES	
VII.	APPENDIX B: MANUFACTURERS' REVENUE ESTIMATES	
VIII.	APPENDIX C: COMMENTING PARTIES	

## **I. INTRODUCTION**

1. In this *Third Report and Order (Third R&O)*, the Commission adopts technical requirements for wireline, cellular, and broadband Personal Communications Services (PCS) carriers to comply with the assistance capability requirements prescribed by the Communications Assistance for Law Enforcement Act of 1994 (CALEA, or the Act).<sup>1</sup> Specifically, we require that all capabilities of J-STD-025 (interim standard) and six of nine "punch list" capabilities requested by the Department of Justice (DoJ)/Federal Bureau of Investigation (FBI) be implemented by wireline, cellular, and broadband PCS carriers. While we are requiring that a packet-mode capability be implemented by such carriers, we are not at this time adopting technical requirements for packet-mode communications, but will permit packet-mode data to be delivered to law enforcement under the interim standard, discussed below, pending further study of packet-mode communications by the telecommunications industry.

## **II. BACKGROUND**

2. CALEA, enacted on October 25, 1994, was intended to preserve the ability of law enforcement officials to conduct electronic surveillance effectively and efficiently in the face of rapid advances in telecommunications technology.<sup>2</sup> In enacting this statute, however, Congress recognized the need to protect privacy interests within the context of court-authorized electronic surveillance. Thus, in defining the terms and requirements of the Act, Congress sought to balance three important policies: "(1) to preserve a narrowly focused capability for law enforcement agencies to carry out properly authorized intercepts; (2) to protect privacy in the face of increasingly powerful and personally revealing technologies; and (3) to avoid impeding the

<sup>1</sup> Communications Assistance for Law Enforcement Act, Pub. L. No. 103-414, 108 Stat. 4279 (1994) (codified as amended in 18 U.S.C. § 2522, and 47 U.S.C. §§ 229, 1001-1010).

<sup>2</sup> 140 Cong. Rec. H-10779 (daily ed. October 7, 1994) (statement of Rep. Hyde).

**Federal Communications Commission****FCC 99-230**

development of new communications services and technologies."<sup>3</sup>

3. Section 103 of CALEA establishes four general "assistance capability requirements" that carriers must meet to achieve compliance with CALEA.<sup>4</sup> Section 103(a) requires that a telecommunications carrier shall ensure that its equipment, facilities, or services that provide a customer or subscriber with the ability to originate, terminate, or direct communications are capable of:

(1) expeditiously isolating and enabling the government, pursuant to a court order or other lawful authorization, to intercept, to the exclusion of any other communications, all wire and electronic communications carried by the carrier within a service area to or from equipment, facilities, or services of a subscriber of such carrier concurrently with their transmission to or from the subscriber's equipment, facility, or service, or at such later time as may be acceptable to the government;

(2) expeditiously isolating and enabling the government, pursuant to a court order

<sup>3</sup> H.R. Rep. No. 103-827, 103d Cong., 2d Sess., pt. 1, at 13 (1994). A more detailed discussion of CALEA can be found in the *Further Notice of Proposed Rule Making (Further NPRM)* in this proceeding, 13 FCC Rcd 22632 (1998), at ¶¶ 3-10.

<sup>4</sup> See section 103(a)(1)-(4) of CALEA, 47 U.S.C. § 1002(a)(1)-(4).

**Federal Communications Commission**

**FCC 99-230**

<sup>5</sup> Section 102(2) of CALEA defines "call-identifying information" as "dialing or signaling information that identifies the origin, direction, destination, or termination of each communication

## Federal Communications Commission

FCC 99-230

generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier." 47 U.S.C. § 1001(2).

<sup>6</sup> The Act does not define or interpret the term "reasonably available." Accordingly, the *Further NPRM* requested comment on what factors should be used by the Commission in determining whether call-identifying information is reasonably available. *See Further NPRM*, at ¶ 25.

**Federal Communications Commission****FCC 99-230**

(A) before, during, or immediately after the transmission of a wire or electronic communication (or at such later time as may be acceptable to the government); and

(B) in a manner that allows it to be associated with the communication to which it pertains,

except that, with regard to information acquired solely pursuant to the authority for pen registers and trap and trace devices (as defined in section 3127 of title 18, United States Code), such call-identifying information shall not include any information that may disclose the physical location of the subscriber (except to the extent that the location may be determined from the telephone number);

(3) delivering intercepted communications and call-identifying information to the government, pursuant to a court order or other lawful authorization, in a format such that they may be transmitted by means of equipment, facilities, or services procured by the government to a location other than the premises of the carrier; and

(4) facilitating authorized communications interceptions and access to call-identifying information unobtrusively and with a minimum of interference with any subscriber's telecommunications service and in a manner that protects--

(A) the privacy and security of communications and call-identifying information not authorized to be intercepted; and

(B) information regarding the government's interception of communications and access to call-identifying information.

4. Section 107(a)(2) of CALEA contains a "safe harbor" provision, stating that "[a] telecommunications carrier shall be found to be in compliance with the assistance capability requirements under section 103, and a manufacturer of telecommunications transmission or switching equipment or a provider of telecommunications support services shall be found to be in compliance with section 106, if the carrier, manufacturer, or support service provider is in compliance with publicly available technical requirements or standards adopted by an industry association or standard-setting organization, or by the Commission under subsection (b), to meet

<sup>7</sup> 47 U.S.C. § 1006(a)(2). We note, however, that individual carriers are free to choose any technical solution that meets the assistance capability requirements of CALEA, whether based on

**Federal Communications Commission****FCC 99-230**

the requirements of section 103."<sup>7</sup> Section 107(b) authorizes the Commission, upon petition, to establish rules, technical requirements or standards necessary for implementing section 103 "[i]f industry associations or standard-setting organizations fail to issue technical requirements or standards or if a Government agency or any other person believes that such requirements or standards are deficient."<sup>8</sup>

5. Subcommittee TR45.2 of the Telecommunications Industry Association (TIA) developed the interim standard to serve as a "safe harbor" for wireline, cellular, and broadband PCS carriers and manufacturers under section 107(a) of CALEA.<sup>9</sup> That standard defines services and features required by wireline, cellular, and broadband PCS carriers to support lawfully authorized electronic surveillance, and specifies interfaces necessary to deliver intercepted communications and call-identifying information to a law enforcement agency (LEA).<sup>10</sup> Several parties filed petitions for rulemaking with the Commission, pursuant to section 107(b) of CALEA, contending that the interim standard was either overinclusive or underinclusive. Specifically, DoJ/FBI argue that the interim standard is underinclusive and does not satisfy CALEA requirements because it fails to include the following nine essential capabilities:

- 1) Content of subject-initiated conference calls -- Capability would enable law enforcement to access the content of conference calls supported by the subject's

an industry standard or not. Carriers, therefore, have some degree of flexibility in deciding how they will comply with CALEA's section 103 requirements. See H.R.Rep. No.103-827, 103rd Cong., 2d Sess, pt. 1, at 3507 (1994)("Compliance with the industry standard is voluntary not compulsory. Carriers can adopt other solutions for complying with the capability requirements.")

<sup>8</sup> 47 U.S.C. § 1006(b).

<sup>9</sup> 47 U.S.C. § 1006(a). This section states that telecommunications carriers and manufacturers are deemed CALEA-compliant if they meet publicly available standards adopted by industry or the Commission.

<sup>10</sup> The interim standard was jointly published in December 1997 by TIA and Committee T1, sponsored by the Alliance for Telecommunications Industry Solutions, as J-STD-025, *Lawfully Authorized Electronic Surveillance*. A more detailed discussion of the development of the interim standard can be found in the *Further NPRM*, at ¶¶ 11-15.

<sup>11</sup> We note that confusion may arise over the terms "subscriber" and "subject." At pp. 27-28 of their March 27, 1998 Joint Petition for Expedited Rulemaking, DoJ/FBI define these terms as follows:

When we refer to "subscriber," we are referring to the person or entity whose "equipment, facilities, or services" (47 U.S.C. § 1002(a)(1)) are the subject of an authorized law enforcement surveillance activity. The subscriber often will be a person or entity suspected of criminal activity, but in some instances, the subscriber will simply be someone whose relationship to a suspected criminal (e.g., spouse or employer) makes it likely that criminal activity will be transacted or discussed over the subscriber's facilities. When we refer to "intercept subject" or "subject," we are referring to any person who is using the subscriber's equipment, facilities, or services, and whose conversations (or dialing activity)

**Federal Communications Commission****FCC 99-230**

service (including the call content of parties on hold).<sup>11</sup>

2) Party hold, join, drop -- Messages would be sent to law enforcement that identify the active parties of a call. Specifically, on a conference call, these messages would indicate whether a party is on hold, has joined or has been dropped from the conference call.

3) Subject-initiated dialing and signaling information -- Capability would provide a LEA access to all dialing and signaling information available from the subject would inform law enforcement of a subject's use of features (such as the use of flash-hook and other feature keys).

4) In-band and out-of-band signaling (notification message) -- A message would be sent to a LEA whenever a subject's service sends a tone or other network message to the subject or associate (e.g., notification that a line is ringing or busy).

5) Timing information -- Information necessary to correlate call-identifying information with the call content of a communications interception would be sent to a LEA.<sup>12</sup>

6) Surveillance status -- A message that would verify that an interception is still functioning on the appropriate subject would be sent to a LEA.

7) Continuity check tone (c-tone) -- An electronic signal would alert a LEA if the facility used for delivery of call content interception has failed or lost continuity.

8) Feature status -- A message would affirmatively notify a LEA of any changes in features to which a subject subscribes.

9) Dialed digit extraction<sup>13</sup> -- Information sent to a LEA would include those digits dialed by a subject after the initial call setup is completed.

6. The Center for Democracy and Technology (CDT), Electronic Frontier Foundation (EFF), Electronic Privacy Information Center (EPIC), and American Civil Liberties Union

therefore would be capable of being acquired during an interception. In a particular investigation, the "intercept subjects" could include the subscriber, who may or may not be involved in criminal activity; a non-subscriber who is not involved in criminal activity; or a non-subscriber who *is* involved in criminal activity.

<sup>12</sup> Delivery within three seconds of the event producing the call-identifying information is requested, together with a time stamp indicating the timing of the event within an accuracy of 100 milliseconds. See DoJ/FBI Joint Petition for Expedited Rulemaking, filed March 27, 1998, at 51-52.

<sup>13</sup> This capability has also been referred to as "post-cut-through dialing and signaling."



**Federal Communications Commission****FCC 99-230**

(ACLU) argue that the interim standard is overinclusive because it includes location information and packet-mode communications capabilities. Specifically, the interim standard includes a location parameter that would identify the location of a subject's "mobile terminal" whenever this information is reasonably available at the intercept access point and its delivery to law enforcement is legally authorized. Location information would be available to the LEA irrespective of whether a call content channel (CCC) or a call data channel (CDC) was employed.<sup>14</sup> The interim standard also provides for LEA access to call-identifying information and the interception of wire and electronic telecommunications, regardless of whether the telecommunications are carried in circuit-mode or in packet-mode.<sup>15</sup> The interim standard further states that the "call-identifying information associated with the circuit-mode content surveillance is provided on the [call data channel]," but does not specifically address whether call-identifying information, if any, associated with packet-mode surveillance must be provided over a call data channel.<sup>16</sup>

7. The Commission released a *Further Notice of Proposed Rule Making (Further NPRM)* in this proceeding to address alleged deficiencies in the interim standard. In the *Further NPRM*, we stated that we did not intend to reexamine any of the uncontested technical requirements of the interim standard, but would make determinations only regarding whether the 11 disputed capabilities met the assistance capability requirements specified in section 103 of CALEA.<sup>17</sup>

8. The *Further NPRM* tentatively concluded that the provision by carriers<sup>18</sup> to LEAs of location information and five punch list capabilities is necessary to meet the assistance capability requirements under section 103(a). Those five punch list capabilities are subject-initiated conference calls; party hold, join, drop on conference calls; subject-initiated dialing and signaling information; and timing information. The *Further NPRM* also sought comment on whether the dialed digit extraction (post-cut-through digits) capability is necessary to meet the assistance capability requirements under Section 103(a). The *Further NPRM* also tentatively concluded that three punch list capabilities--surveillance status, continuity check tone and feature status--were not assistance capability requirements under Section 103(a).

9. We emphasized in the *Further NPRM* that we were directed, pursuant to section 107(b) of CALEA, to take into account five factors in our analysis of deficiency petitions brought

<sup>14</sup> J-STD-025 at § 6.4.6, and at §§ 5.4.1-5.4.8, Tables 1, 5, 6, and 8.

<sup>15</sup> *Id.* at §§ 3 and 4.5. Section 3 defines circuit-mode as "a communication using bi-directional paths switched or connected when the communication is established. The entire communication uses the same path." Section 3 defines packet-mode as "a communication where individual packets or virtual circuits of a communication within a physical circuit are switched or routed by the accessing telecommunication system. Each packet may take a different route through the intervening network(s)."

<sup>16</sup> *Id.*

<sup>17</sup> *Further NPRM*, at ¶¶ 44-45.

<sup>18</sup> Hereinafter, reference to "carriers" includes only wireline, cellular and broadband PCS carriers.

**Federal Communications Commission****FCC 99-230**

to our attention.<sup>19</sup> Those factors are: (1) meeting the assistance capability requirements of section 103 by cost-effective methods; (2) protecting the privacy and security of communications not authorized to be intercepted; (3) minimizing the cost of CALEA compliance on residential ratepayers; (4) serving the policy of the United States to encourage the provision of new technologies and services to the public; and, (5) providing a reasonable time and conditions for CALEA compliance.<sup>20</sup>

10. We also tentatively concluded in the *Further NPRM* that, if the additional technical requirements we proposed were adopted, they could be most efficiently implemented by permitting TIA to modify J-STD-025 in accord with our determinations. We stated that although TIA may have to undertake additional work to implement the additional technical requirements identified in the *Further Notice*, it has the experience and resources to develop technical specifications and implement CALEA's requirements most rapidly.<sup>21</sup>

11. Finally, we sought comment in the *Further NPRM* on what role, if any, we can or should play in assisting telecommunications carriers other than wireline, cellular, and broadband PCS to set standards for, or to achieve compliance with, CALEA's requirements.<sup>22</sup>

### **III. DISCUSSION**

#### **A. General Comments**

##### **1. Scope of Proceeding**

12. We stated in the *Further NPRM* that the uncontested technical requirements of the interim standard are beyond the scope of this proceeding. EPIC, EFF, and ACLU, challenge this tentative conclusion. They argue that our decision to foreclose comment on "uncontested" issues improperly insulates the interim industry standard from public scrutiny, is inconsistent with the requirements of the Administrative Procedure Act, and undermines the value of our authority over the process that led to the standard.<sup>23</sup>

13. *Discussion.* We find no need to reexamine the entire interim standard. CALEA provides that the Commission establish technical requirements or standards upon being petitioned by a government agency or other person, where industry fails to issue technical requirements or standards or such government agency or person believes the technical requirements or standards are deficient.<sup>24</sup> As discussed in the *Further NPRM*, a draft industry standard was submitted for

<sup>19</sup> *Further NPRM*, at ¶¶ 29-30.

<sup>20</sup> 47 U.S.C. § 1006(b).

<sup>21</sup> *Further NPRM*, at ¶¶ 132-133.

<sup>22</sup> *Id.* at ¶ 141.

<sup>23</sup> EPIC/EFF/ACLU Comments, at 33-34.

<sup>24</sup> 47 U.S.C. § 1006(b).

**Federal Communications Commission****FCC 99-230**

balloting in spring 1997 to all interested participants under procedures of the American National Standards Institute.<sup>25</sup> Subsequently, petitions for rulemaking were filed with the Commission, pursuant to section 107(b), contending that the interim standard was deficient; however, none of these petitions raised any issue pertaining to the interim standard other than those relating to location information, packet-mode communications, and the DoJ/FBI punch list. Further, on April 20, 1998, our Wireless Telecommunications Bureau and Office of Engineering and Technology issued a *Public Notice* in this proceeding that solicited specific comment on the scope of the assistance capability requirements necessary to satisfy the obligations imposed by CALEA.<sup>26</sup> Again, no deficiencies in the interim standard were identified other than with respect to location information, packet-mode communications, and the punch list. We find that no other issues were raised before the Commission regarding the interim standard. Since section 107(b) requires the Commission to resolve specific disputes raised by petition regarding alleged deficiencies in the industry standard, we decline to consider other aspects of that standard not challenged in this proceeding. Moreover, by focusing only on those specific technical issues properly raised before us, we will achieve greater efficiency and will permit telecommunications manufacturers and carriers to deploy CALEA solutions on a more expedited basis. Accordingly, we find that wireline, cellular, and broadband PCS carriers must comply with all uncontested requirements of the interim industry standard by June 30, 2000.<sup>27</sup>

**2. Definition of "Reasonably Available"**

14. While the Act defines call-identifying information as "dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier,"<sup>28</sup> it does not define "reasonably available." The *Further NPRM* asked for comment on the factors we should use in determining whether call-identifying information to be provided by a carrier to a LEA is "reasonably available" to the carrier.<sup>29</sup> The interim standard includes a definition of this term which states that call-identifying information is "reasonably available" to a carrier if such information is present at an intercept access point (IAP) for call processing purposes. The IAP is "a point within a telecommunication system where some of the communications or call-identifying information of an intercept subject's equipment, facilities, and services are accessed." There may be one or more IAPs.<sup>30</sup>

15. *Comments.* AT&T and Nextel Communications, Inc. (Nextel) state that they support the definition of reasonably available call-identifying information given in the interim

<sup>25</sup> *Further NPRM*, at ¶ 12 & n.28.

<sup>26</sup> DA 98-762.

<sup>27</sup> *See* ¶ 36, *infra*.

<sup>28</sup> 47 U.S.C. § 1001(2).

<sup>29</sup> *Further NPRM*, at ¶ 25.

<sup>30</sup> *See*, respectively, §§ 3 and 4.2.2 of J-STD-025, at 8 and 14.

<sup>31</sup> AT&T Comments, at 3-4 (*citing* J-STD-025 at § 4.2.1); Nextel Comments, at 4. Section 4.2.1 of J-STD-025 is titled "Assumptions," and the last paragraph of p. 13 states: "Call-identifying

**Federal Communications Commission****FCC 99-230**

standard.<sup>31</sup> AT&T further states that in the *Further NPRM* we departed from that definition, and that if we affirm the proposals set forth therein, we should acknowledge that processing that takes place entirely within terminal equipment or other subscriber-owned or maintained equipment is not reasonably available.<sup>32</sup>

16. DoJ/FBI contend that the concept of "reasonable availability" is a technical one that focuses on network design, not a financial one involving carrier balance sheets. Further, DoJ/FBI disagree that call-identifying information should be deemed reasonably available to a carrier only if the information is present at an IAP for call processing purposes. DoJ/FBI contend that the interim standard imposes no requirements regarding where or how IAPs are to be situated within a network. Instead, according to DoJ/FBI, the interim standard leaves the choice of IAPs entirely to the discretion of individual carriers and manufacturers and permits a carrier to situate IAPs without regard to the impact on the carrier's ability to expeditiously isolate and enable a LEA to access call-identifying information. DoJ/FBI maintain that it is untenable to take the position, as reflected in the J-STD-025 definition, that there is never any need to modify network protocols, even when the modification would be technically straightforward and would provide access to call-identifying information without imposing significant burdens on the network. Accordingly, DoJ/FBI propose a modified definition of reasonably available call-identifying information, as follows:

Call-identifying information is reasonably available if (1) it is present in an element in the carrier's network that is used to provide the subscriber with the ability to originate, terminate, or direct communications and (2) it can be accessed there, or can be delivered to an IAP located elsewhere, without unreasonably affecting the call processing capabilities of the network.<sup>33</sup>

17. Nextel contends that we should "validate" the J-STD-025 definition of reasonably available call-identifying information because the objections of DoJ/FBI to that definition are not well-grounded. Nextel states that the interim standard requires IAPs to be placed to access call content and call-identifying information, and that the reason the standard requires that call-identifying information be present at the IAP for call processing purposes is that Congress narrowly defined such information as dialing and signaling information used for the purposes of routing calls through a carrier's network.<sup>34</sup>

information is *reasonably available* if the information is present at an Intercept Access Point (IAP) for call processing purposes. Network protocols (except LAESP) do not need to be modified solely for the purpose of passing call-identifying information. The specific elements of call-identifying information that are reasonably available at an IAP may vary between different technologies and may change as technology evolves." [Note: "LAESP" stands for Lawfully Authorized Electronic Surveillance Protocol.]

<sup>32</sup> AT&T Comments, at 6.

<sup>33</sup> DoJ/FBI Comments, at 21-25.

<sup>34</sup> Nextel Reply Comments, at 6-7.

**Federal Communications Commission****FCC 99-230**

18. The Cellular Telecommunications Industry Association (CTIA) maintains that DoJ's/FBI's contention that a carrier may select IAPs that limit LEA collection of call-identifying information is erroneous. CTIA asserts that a carrier that attempted to implement J-STD-025 in such a manner would not be in compliance with publicly available technical requirements. CTIA argues, however, that there is no need for a carrier to redesign its network to create information for use by a LEA.<sup>35</sup>

19. Numerous parties take issue with the contention of DoJ/FBI that "reasonable availability" is only a technical concept, and others argue that costs should be taken into consideration even for punch list items that are not considered to be call-identifying information. Ameritech Corporation (Ameritech) maintains that Congress used the term "reasonable availability" to include not only technical but also cost and timeliness considerations.<sup>36</sup> PrimeCo Personal Communications, L.P. (PrimeCo) argues that DoJ's/FBI's interpretation of this term would effectively nullify Congress's imposition of a reasonableness requirement and would require the redesign of networks and equipment upgrades without regard to cost considerations. According to PrimeCo, such an interpretation would eviscerate the safe harbor of section 107 by requiring carriers to provide a particular punch list capability notwithstanding the cost criteria set forth in section 107(b).<sup>37</sup> The United States Telephone Association (USTA) agrees, stating that we cannot adopt a punch list item unless it is shown to meet those cost criteria.<sup>38</sup> AirTouch states that the cost of any technical solution is necessarily part of a determination as to whether that solution is reasonably available.<sup>39</sup> AT&T states that section 107(b)(1) provides that if a capability cannot be provided in a cost-effective manner, that capability need not be provided.<sup>40</sup>

20. Several parties who argue that the costs of a particular punch list capability are relevant to a determination of whether that capability is reasonably available to carriers also argue that we must take into account the costs of the core interim standard in our determination of whether a punch list item should be required. CTIA contends that these costs will be in excess of \$4 billion for all carriers.<sup>41</sup> On a per switch basis, AT&T states that these costs, even excluding some that are difficult to quantify, approach almost \$500,000.<sup>42</sup> The Personal Communications Industry Association (PCIA) maintains that, based on the lowest switch modification costs in the record, the nationwide cost to local exchange carriers (LECs) of implementing the interim standard will be \$1.73 billion; and, based on AT&T's per switch estimates, nationwide costs to wireless carriers will be \$639 million.<sup>43</sup>

<sup>35</sup> CTIA Reply Comments, at 28-29.

<sup>36</sup> Ameritech Reply Comments, at 4.

<sup>37</sup> PrimeCo Reply Comments, at 2.

<sup>38</sup> USTA Reply Comments, at 3.

<sup>39</sup> AirTouch Reply Comments, at 9.

<sup>40</sup> AT&T Reply Comments, at 5.

<sup>41</sup> CTIA Reply Comments, at 12.

<sup>42</sup> *Id.* at 28.

<sup>43</sup> PCIA Reply Comments, at 6-7.

**Federal Communications Commission****FCC 99-230**

21. Ameritech proposes that if the cost of developing a punch list capability exceeds 5% of the interim standard we should deem that capability to be not reasonably available.<sup>44</sup> Additionally, Ameritech asserts that we must consider the cost of modifying switches placed into service on or before January 1, 1995 in determining capability requirements under section 103 because any such switches that have undergone major modifications or significant upgrades must be retrofitted at carriers' expense.<sup>45</sup> Ameritech expresses concern that, given the FBI's proposed definition of "major modification or significant upgrade," a substantial portion of the costs of CALEA compliance are designed to become carriers' responsibilities.<sup>46</sup>

22. DoJ/FBI argue that the telecommunications industry has agreed to bear the costs of implementing the interim standard; therefore, the only relevant costs are the additional costs that will be added by the punch list.<sup>47</sup> Additionally, DoJ/FBI assert that the features required for a carrier to meet its CALEA assistance capability obligations will be among many features contained in one or more periodic "releases" deployed on the carrier's switches, and that the costs attributable to CALEA are only those that will be added to the costs of this regular release process.<sup>48</sup> Further, according to DoJ/FBI, it is general industry practice for carriers to be given discounts of as much as 65% from the manufacturers' quoted prices.<sup>49</sup> Moreover, DoJ/FBI assert that even if CTIA's worst-case scenario in industry-wide compliance costs to implement the J-Standard is accepted and all costs are passed on to consumers, the resulting increase in the average ratepayer's monthly bill would be minimal if costs are spread over five years.<sup>50</sup>

23. In response to our request in the *Further NPRM*,<sup>51</sup> we received comments from five manufacturers regarding their anticipated revenues from selling software, and in some cases certain hardware, to wireline, cellular, and broadband PCS carriers to allow those carriers to meet the technical requirements of CALEA.<sup>52</sup> Subsequently, the Commission's Office of Engineering and Technology (OET) issued a *Public Notice* that solicited comment on these aggregated revenue estimates.<sup>53</sup> These estimates, which would represent costs to the carriers, totalled \$916 million for the core J-STD-025 and \$414 million for the nine punch list items.<sup>54</sup>

<sup>44</sup> Ameritech Comments, at 3.

<sup>45</sup> 47 U.S.C. § 1008(d).

<sup>46</sup> Ameritech Reply Comments, at 5.

<sup>47</sup> DoJ/FBI Comments, at 17.

<sup>48</sup> DoJ/FBI Reply Comments, at 14.

<sup>49</sup> *Id.* at 16.

<sup>50</sup> *Id.* at 19.

<sup>51</sup> *Further NPRM*, at ¶ 30.

<sup>52</sup> Each manufacturer requested confidential treatment of its individualized revenue data, and such treatment was granted by the Commission's Office of Engineering and Technology (OET). *See Order*, CC Docket No. 97-213, DA 99-412, released March 2, 1999. Accordingly, in light of OET's ruling, the data were released to the public for comment and considered by the Commission only in aggregated form.

<sup>53</sup> *See Public Notice*, CC Docket No. 97-213, DA 99-863, released May 7, 1999.

<sup>54</sup> *See Appendix B, infra.*

## Federal Communications Commission

## FCC 99-230

24. In response to the *Public Notice*, we received a number of comments concerning the aggregated revenue estimates. CTIA contends that its survey of 21 wireless carriers and six wireless switch manufacturers generally confirms these estimates.<sup>55</sup> AirTouch states that the estimates provide a floor that the actual total is sure to exceed, and asserts that the Commission must conclude that the punch list is not cost-effective. AirTouch argues that carriers will incur extensive expenses that will not be paid to telecommunications equipment manufacturers, including in-house engineering and implementation costs and purchases from third-party suppliers.<sup>56</sup>

25. GTE and SBC agree with AirTouch that the manufacturers' revenue estimates significantly understate total costs, and each provides its own CALEA compliance cost estimates. GTE states that many of its switches are not manufactured by the five vendors encompassed by the *Public Notice*, and further states that it has one of the most central office-intensive networks in the country, thereby increasing its CALEA compliance costs. According to GTE, its wireline costs of implementing J-STD-025 are more than \$400 million, which compares with the manufacturers' wireline revenue estimate of only \$569 million.<sup>57</sup> SBC states its CALEA compliance cost estimates include not only software, but activation fees, engineering and installation fees, gating hardware costs, and the required advancement of generic upgrades. Based on these total costs, SBC estimates its wireline J-STD-025 compliance costs to be \$326 million, and its wireless J-STD-025 compliance costs to be \$37.2 million. SBC also estimates its wireline CALEA compliance costs, including the costs associated with the punch list, to be \$340 million, with punch list costs unavailable for its wireless carriers.<sup>58</sup>

26. DoJ/FBI contend that the manufacturers' revenue estimates have no relevance to the Commission's task under section 107(b) of CALEA.<sup>59</sup> DoJ/FBI further contend that these estimates are overstated because they reflect list prices, and additionally do not take into account the fact that a substantial portion of costs to carriers will be reimbursed because equipment was installed or deployed by January 1, 1995. DoJ/FBI also maintain that the estimates may include revenues that enable carriers to meet CALEA's capacity, rather than capability, requirements; and further, may reflect CALEA solutions being incorporated into all remote switches.<sup>60</sup> DoJ/FBI note that under section 104(e) of CALEA, eligible capacity costs incurred by a carrier are to be reimbursed by the Government;<sup>61</sup> and argue that for many switching platforms, compliance solutions need to be incorporated only into host and stand-alone switches, and not into remote switches.<sup>62</sup>

<sup>55</sup> CTIA Comments to *Public Notice*, at 3, 7.

<sup>56</sup> AirTouch Comments to *Public Notice*, at 2-4.

<sup>57</sup> GTE Reply Comments to *Public Notice*, at 5-6.

<sup>58</sup> SBC Comments to *Public Notice*, at 1-3.

<sup>59</sup> DoJ/FBI Comments to *Public Notice*, at 1.

<sup>60</sup> *Id.* at 6-8.

<sup>61</sup> 47 U.S.C. § 1003(b).

<sup>62</sup> DoJ/FBI Comments to *Public Notice*, at 8.

## Federal Communications Commission

## FCC 99-230

27. USTA asserts that there is no evidence that any discounts from list prices are available to reduce costs to carriers, and contends that the DoJ/FBI interpretations of the meaning of the terms "equipment, facilities, or services installed or deployed" by January 1, 1995 and "major modifications" to such equipment, facilities, or services would limit reimbursement to carriers. Additionally, USTA maintains that there has been no indication from DoJ/FBI as to what capacity costs will be eligible for reimbursement.<sup>63</sup>

28. *Discussion.* We reiterate that we find no need to re-examine the entire interim standard;<sup>64</sup> however, in addition to examining the eleven alleged deficiencies, we also will examine any specific issue regarding that standard raised by the proposals in the *Further NPRM*, including the definition of "reasonably available." The interim standard states that call-identifying information is "reasonably available" to a carrier if such information is present at an IAP for call processing purposes.<sup>65</sup> We agree with DoJ/FBI that J-STD-025's definition of "reasonably available" is too narrow because the definition would limit "reasonably available call-identifying information" to call-identifying information used by the IAP switch for call processing. On the other hand, we find DoJ/FBI's proffered definition unnecessarily broad because it would apply to call identifying information located anywhere within a carrier's network, rather than at the IAP location where the information is being captured for the LEA. Consequently, we do not disturb the interim standard's conclusion that call identifying information is reasonably available if it is located at the IAP. We thus find that if call-identifying information is present at a carrier's IAP<sup>66</sup> and can be made available without the carrier being unduly burdened with network modifications, that information is reasonably available to that carrier, even if it is not used by the IAP switch for call processing. Under this definition, call-identifying information that is used by the IAP switch for call processing is reasonably available, as well as other call-identifying information carried on the carrier's network that passes the IAP.

29. We believe that modifying the definition of "reasonably available" to include call identifying information that is present at an IAP, as opposed to restricting such information to that used only for call processing, serves the important objective of not impeding the development of new communications services. In addition to network design considerations, our modification will permit cost and privacy considerations to be considered in determining whether call-identifying information is "reasonably available" to an originating carrier. This modification is consistent with most commenting parties' contention that the term "reasonably available," as set forth in section 103(a)(2) of CALEA, is best interpreted to include cost factors in addition to technical considerations. We believe that this interpretation is consistent with the Act's directive that in taking any action under section 107(b), the Commission must meet the assistance capability requirements of section 103 by cost-effective methods and minimize the cost of CALEA

<sup>63</sup> USTA Reply Comments to *Public Notice*, at 2.

<sup>64</sup> See ¶ 13, *supra*.

<sup>65</sup> See ¶ 14 and n.30, *supra*; and see again § 4.2.1 of J-STD-025, at 13. The intercept access point is the point in the network where the subscriber's phone line is tapped, usually at the switch.

<sup>66</sup> As mentioned in ¶ 14, *supra*, there may be more than one IAP within a carrier's network.



**Federal Communications Commission****FCC 99-230**

compliance on residential ratepayers, as well protecting the privacy and security of communications not authorized to be intercepted.<sup>67</sup> Accordingly, we will define call-identifying information to be "reasonably available" to an originating carrier if such information "is present at an IAP and can be made available without the carrier being unduly burdened with network modifications."

30. We have reviewed the cost/revenue data submitted in this proceeding. While there are a wide variety of cost estimates, we find the five manufacturers' aggregate revenue estimates of \$916 million for the core J-STD-025 and \$414 million for the nine punch list items to be a reasonable guide of the costs to wireline, cellular, and broadband PCS carriers for CALEA compliance. Commenters have noted reasons for believing that the manufacturers' revenue estimates may either understate or overstate costs to carriers. On balance, we find that while these estimates indicate that costs to carriers will be significant, and do not represent all carrier costs of implementing CALEA,<sup>68</sup> the additional punch list costs are not so exorbitant as to require us to reject the punch list automatically without considering each item on an individual basis in relation to CALEA's other statutory factors. We find particularly instructive the cost of the punch list relative to the cost of the core J-STD-025 because the latter represents the bulk of costs to carriers, and carriers -- through their participation in TIA Subcommittee TR45.2 -- have agreed to provide the core capabilities of J-STD-025. Accordingly, we will evaluate each punch list item individually, including the anticipated cost of each item, as discussed below.

31. We decline to adopt Ameritech's proposals relating to costs. Its proposal for the Commission to automatically reject any punch list capability whose costs exceed 5% of the interim standard would necessarily be arbitrary and contrary to our directives under CALEA. Additionally, while we recognize that some switches placed into service on or before January 1, 1995 may have to be retrofitted at carriers' expense, the commenting parties have not submitted information sufficient for us to quantify the impact of this factor.

**3. Retrofitting Equipment under Interim Standard**

32. Bell Atlantic Mobile, Inc. (BAM) raises another concern about the interim standard. BAM argues that, in cases in which a carrier deployed equipment after January 1, 1995, we should commence a proceeding under section 109(b) of CALEA to decide whether the carrier should be required to bear the costs of retrofitting that equipment to comply with the interim standard.<sup>69</sup> BAM contends that we are empowered with broad authority to alleviate the adverse

<sup>67</sup> 47 U.S.C. § 1006(b).

<sup>68</sup> As OET noted in its *Public Notice*, the revenue estimates are for only five manufacturers, and do not represent all CALEA-related software and equipment revenues anticipated by these manufacturers. *See Public Notice*, at ¶ 4. Nevertheless, relative to other cost/revenue estimates submitted in this proceeding, we find the manufacturers' estimates to be the most detailed and reliable.

<sup>69</sup> Carriers do not have to pay to retrofit equipment installed on or before January 1, 1995 if it has not been significantly upgraded or otherwise modified since that time. Section 109 of CALEA provides that "[t]he Attorney General may, subject to the availability of appropriations, agree to pay telecommunications carriers for all

**Federal Communications Commission****FCC 99-230**

public policy implications for competition and consumers of requiring carriers to pay for retrofitting equipment.<sup>70</sup>

33. *Discussion.* We observe that BAM's request that the Commission undertake a rulemaking proceeding under section 109(b) to decide generally whether telecommunications carriers should be required to bear the costs of retrofitting equipment installed after January 1, 1995 is contrary to the plain language of the Act. Section 109(b) requires us to determine upon receipt of a petition whether compliance by an individual carrier with the assistance capability requirements of section 103 is reasonably achievable with respect to any equipment, facility, or service installed or deployed after January 1, 1995.<sup>71</sup> If we receive a petition and determine that compliance by an individual carrier is not reasonably achievable, the Act provides that the Attorney General may agree to pay for any such equipment, facility or service.<sup>72</sup> If the Attorney General does not agree to pay, that carrier shall be deemed to be in compliance with the assistance capability requirements of section 103.<sup>73</sup> Accordingly, we decline to adopt BAM's proposal since it is contrary to the plain language of the Act.<sup>74</sup>

#### **4. Compliance Date for Interim Standard**

34. AirTouch Communications, Inc. (AirTouch); BellSouth Corporation, Inc., BellSouth Telecommunications, Inc., BellSouth Cellular Corp., BellSouth Personal Communications, Inc., and BellSouth Wireless Data, L.P. (BellSouth); and SBC Communications, Inc. (SBC) question whether the current June 30, 2000 deadline for implementation of the core requirements of the interim standard is achievable. AirTouch states that we should acknowledge in this *Third R&O* that additional extensions may be necessary;<sup>75</sup> BellSouth states that only one of its vendors has promised to meet the current deadline;<sup>76</sup> and

reasonable costs directly associated with the modifications performed by carriers in connection with equipment, facilities, and services installed or deployed on or before January 1, 1995, to establish the capabilities necessary to comply with section 103." 47 U.S.C. § 1008(a). If the Attorney General does not agree to pay all reasonable costs directly related to such modifications, the "equipment, facility, or service [deployed on or before January 1, 1995] shall be considered to be in compliance with the assistance capability requirements of section 103 until the equipment, facility, or service is replaced or significantly upgraded or otherwise undergoes major modification." 47 U.S.C. § 1008(d).

<sup>70</sup> BAM Comments, at 15-16.

<sup>71</sup> 47 U.S.C. § 1008(b)(1).

<sup>72</sup> 47 U.S.C. § 1008(b)(2).

<sup>73</sup> *Id.*

<sup>74</sup> We note that in a companion item adopted simultaneously with this order, we provide guidance regarding the factors that we will consider in making determinations under section 109(b) as to whether compliance with CALEA's assistance capability requirements is reasonably achievable for particular carriers, and the showings we expect entities filing petitions under section 109(b) to make. See *Second Report and Order*, CC Docket No. 97-213, FCC 99-229, adopted August 26, 1999.

<sup>75</sup> AirTouch Comments, at 31.

<sup>76</sup> BellSouth Comments, at i.

**Federal Communications Commission****FCC 99-230**

SBC states that the delivery schedule contemplated by its vendors will not allow for the extensive testing required to ensure that its deployment is in compliance with the interim standard, nor does this schedule allow a sufficient period for deployment across SBC's entire network.<sup>77</sup>

35. *Discussion.* We see no reason at this time to extend, on an industry wide basis, the June 30, 2000 deadline for compliance with CALEA's section 103 capability requirements that are covered by the interim standard. We observe that the deadline specified in the Act was October 25, 1998;<sup>78</sup> thus, we have already extended the original deadline by more than 20 months. In our *Extension Order*, we stated:

[W]e will require carriers to have installed CALEA-compliant equipment and facilities based on the core J-STD-025 standard by June 30, 2000. This is a firm deadline. If this standard is ultimately modified and new capabilities or features are added to the core standard in the section 107(b) rulemaking, we will consider establishing a separate deadline for upgrading carrier equipment and facilities to comply with those capabilities or features in that proceeding pursuant to our authority under section 107(b)(5). This approach provides certainty to the telecommunications industry in developing and installing CALEA-compliant solutions, and recognizes the interests of law enforcement in providing effective public safety. It also seeks to allow carriers to implement a CALEA-compliant solution sooner, rather than later, while providing the flexibility to design modifications to the core J-STD-025 standard that can be installed in carrier equipment and facilities in subsequent upgrades, if any such modifications are adopted in the section 107(b) rulemaking proceeding.<sup>79</sup>

36. Therefore, carriers and manufacturers have been on notice since the September 1998 *Extension Order* that we considered June 30, 2000 a "firm" deadline for the section 103 capability requirements covered by the J-STD-025.<sup>80</sup> Additionally, as discussed in paragraph 129, *infra*, we find the record justifies the establishment of a separate later deadline for the additional capabilities that we are herein mandating for wireline, cellular, and broadband PCS carriers. We also note that DoJ/FBI is currently negotiating with carriers regarding areas where wiretaps are

<sup>77</sup> SBC Comments, at 18-19.

<sup>78</sup> Section 111(b) of CALEA, 47 U.S.C. § 1001(b), specified a compliance deadline four years after the Act's enactment. The Act was enacted on October 25, 1994; accordingly, the original compliance deadline was October 25, 1998.

<sup>79</sup> *Memorandum Opinion and Order*, CC Docket No. 97-213, FCC 98-223, released September 11, 1998, at ¶ 46 (footnote omitted).

<sup>80</sup> The *Extension Order* stated that the "core" of J-STD-025 excludes both the provision of location information and packet-mode communications. *Id.* at n.139. However, in the *Further NPRM* we proposed to modify that conclusion to include a location information feature as part of the core of J-STD-025. See *Further NPRM*, at ¶ 46. As discussed in ¶ 46, *infra*, we are herein adopting that proposal and are requiring that a location information feature be deployed by carriers by the June 30, 2000 CALEA compliance deadline, unless carriers have obtained an extension. With respect to packet-mode communications, as discussed in ¶ 55, *infra*, we are herein requiring that a packet-mode feature be deployed by September 30, 2001.

**Federal Communications Commission****FCC 99-230**

infrequent, and these carriers may be permitted to postpone CALEA compliance in those areas.<sup>81</sup> Accordingly, we understand that DoJ/FBI and/or the affected carriers may seek an extension under section 107(c) of CALEA of the June 30, 2000 deadline in conformance with such agreements.<sup>82</sup> We therefore will await receipt of such requests before deciding on a new deadline for the affected carriers. We expect that along with such requests, DoJ/FBI will submit a list of the affected carriers and the terms of such extensions so that we may place such information on Public Notice for comment.

**B. Particular Capabilities of J-STD-025 Opposed by CDT, EFF, EPIC, and ACLU****1. Location Information**

37. *Background.* J-STD-025 includes a "location" parameter that would identify the location of a subject's "mobile terminal" whenever this information is reasonably available at the intercept access point and its delivery to law enforcement is legally authorized. Location information would be available to the LEA irrespective of whether a call content channel or a call data channel was employed.<sup>83</sup>

38. The *Further NPRM* tentatively concluded that location information falls under the definition of call-identifying information set forth in section 102(2) of CALEA because location information identifies the origin or destination of a communication.<sup>84</sup> Therefore, the *Further NPRM* proposed that where location information is reasonably available to a carrier, provision of that information to LEAs is necessary to meet the mandates of section 103. The *Further NPRM* also proposed that location information necessary to meet section 103 would include only the subject's cell site location at the beginning and termination of a call. Finally, the *Further NPRM* tentatively concluded that for a LEA to obtain location information that cannot be determined from the telephone number, the LEA must have an authorization different from the minimal authorization necessary for use of pen registers and trap and trace devices.<sup>85</sup>

39. *Comments.* CDT states that our tentative decision to require carriers to design a location capability into wireless phones cannot be supported by the plain words of CALEA and, further, directly contradicts the Act's legislative history, which states that location information is not a CALEA mandate.<sup>86</sup> CDT contends that the words "origin" and "destination" have obvious

<sup>81</sup> See letter of June 30, 1999, from Stephen R. Colgate, Assistant Attorney General for Administration, to William E. Kennard, Chairman, Federal Communications Commission.

<sup>82</sup> We recognize that CALEA also permits carriers to file petitions under section 109(b) of CALEA stating that compliance with the assistance capability requirements of section 103 is not reasonably achievable with respect to any equipment, facilities, or equipment deployed after January 1, 1995.

<sup>83</sup> J-STD-025 at § 6.4.6, and at §§ 5.4.1-5.4.8, Tables 1, 5, 6, and 8.

<sup>84</sup> 47 U.S.C. § 1001(2).

<sup>85</sup> *Further NPRM*, at ¶¶ 52-57.

<sup>86</sup> CDT Reply Comments, at iii.

**Federal Communications Commission****FCC 99-230**

meanings apart from location, and that interpreting those terms to also mean cell site location violates a fundamental rule of statutory interpretation -- that each word in a statute should be given a single and unique meaning. Also, CDT contends that the location of wireless phones is more personally revealing than the location of wireline phones because when a call is made on a wireless phone it almost always is made by the individual subscriber.<sup>87</sup>

40. EPIC, EFF, and ACLU generally agree with CDT, arguing that CALEA contains no provisions expressly including location tracking data within the definition of call-identifying information. EPIC, EFF, and ACLU also contend that the interim standard is internally inconsistent because it proposes to require carriers to provide location tracking data at the beginning and end of calls as part of their duty to provide information regarding the "origin" and "destination" of particular communications, but the definition of those terms in the interim standard does not pertain to physical location.<sup>88</sup>

41. US West states that the location information capability in the interim standard is not call-identifying information under section 103(a). US West argues that CALEA's definition of call-identifying information requires carriers to provide LEAs with telephone numbers, not other characteristics of calls. US West maintains that while a LEA generally is able to derive a target's physical location from a telephone number for most wireline calls, that ability is incidental and should not be read as an underlying mandate of CALEA.<sup>89</sup>

42. DoJ/FBI argue that location information is call-identifying and state that, irrespective of whether we modify the definition of "reasonable availability" as they propose, there is no need for us to interpret or construe this term differently in connection with location information than in connection with the other kinds of call-identifying information at issue in this proceeding.<sup>90</sup> DoJ/FBI state that they agree that the interim standard requires only that cell site location at the beginning and end of a call be provided, and maintain that CALEA embodies a compromise regarding location information: When a LEA is proceeding "solely pursuant to the authority for pen registers and trap and trace devices," carriers are not to treat location information as call-identifying information, but when a LEA has been duly authorized to acquire location information under other electronic surveillance statutes, location information remains part of call-identifying information. DoJ/FBI contend that the interim standard is consistent with this intent, while CDT's position is not. DoJ/FBI state that it is not the case, as CDT suggests, that the Commission's reading of "origin" and "destination" gives those terms different meanings for wireless and wireline communications. DoJ/FBI contend that those terms encompass location both in the wireless and wireline settings, but that in the case of wireline communications the fixed location of the subscriber's terminal means that the telephone number of the terminal identifies the

<sup>87</sup> CDT Comments, at 5-12.

<sup>88</sup> EPIC, EFF, and ACLU Reply Comments, at 10-11. Page 5 of J-STD-025 states that "origin is the number of the party initiating a call (e.g., calling party)" and "destination is the number of the party to which a call is being made (e.g., called party)."

<sup>89</sup> US West Comments, at 24.

<sup>90</sup> DoJ/FBI Comments, at 74-76.

<sup>91</sup> DoJ/FBI Reply Comments, at 66-68.

**Federal Communications Commission****FCC 99-230**

location of the call, and so no separate location information is required.<sup>91</sup>

43. The New York City Police Department (NYPD) argues that any location information that is used and/or is available within a carrier's network for the purpose of providing overall service and/or processing of individual calls should be considered by us to be reasonably available to the carrier in the case of location of wireless devices. However, NYPD expresses concern about our proposal to adopt cell site location rather than a more precise location for the subject's mobile terminal. NYPD contends that such a broad definition could limit the scope of existing electronic surveillance authority. For example, NYPD states that in criminal cases where triangulation techniques that allow location to be determined with exactitude have been authorized by a court, carriers might be reluctant to assist a LEA to determine a more precise location than a cell site.<sup>92</sup>

44. *Discussion.* We find that a subject's cell site location at the beginning and end of a call is call-identifying information under CALEA. The Act states that call-identifying information is "dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier."<sup>93</sup> We find, contrary to the position of CDT and EPIC/EFF/ACLU, that a subject's cell site location at the beginning and end of a call identifies the "origin" or "destination" of a communication and thus is covered by CALEA. With respect to CALEA's express statement that "with regard to information acquired solely pursuant to the authority for pen registers and trap and trace devices (as defined in section 3127 of title 18, United States Code), . . . call-identifying information shall not include any information that may disclose the physical location of the subscriber (except to the extent that the location may be determined from the telephone number),"<sup>94</sup> we agree with DoJ/FBI that this provision does not exclude location information from the category of "call-identifying information," but simply imposes upon law enforcement an authorization requirement different from that minimally necessary for use of pen registers and trap and trace devices.<sup>95</sup>

<sup>91</sup> DoJ/FBI Reply Comments, at 66-68.

<sup>92</sup> NYPD Comments, at 7-8.

<sup>93</sup> 47 U.S.C. § 1001(2).

<sup>94</sup> 47 U.S.C. § 1002(a)(2)(B).

<sup>95</sup> As we stated in the *Further NPRM*, we believe that interpreting this provision to exclude location information from the technical requirements for CALEA would render the provision "mere surplusage" and would thus conflict with the usual rules of statutory construction. *See Dunn v. CFTC*, 519 U.S. 465 (1997), 117 S.Ct. 913, 917 (1997) ("legislative enactments should not be construed to render their provisions mere surplusage"); *Illinois Public Telecommunications Ass'n v. FCC*, 117 F.3d 555, 562 (D.C.Cir. 1997) (construing section 226(e)(2) of Communications Act in manner to avoid "mere surplusage"); *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket No. 98-147, Memorandum Opinion and Order and Notice of Proposed Rulemaking, FCC 98-188, released August 7, 1998, at ¶ 71 ("when . . . 'charged with understanding the relationship between two different provisions within the same statute, we must analyze the language of each to make sense of the whole'").

## Federal Communications Commission

## FCC 99-230

45. Additionally, we find that location information is reasonably available to cellular and broadband PCS carriers. We observe that this capability was developed by industry and is included in the interim standard. Further, as we observed in the *Further NPRM*, in the wireline environment LEAs have generally been able to obtain location information routinely from the telephone number because the telephone number usually corresponds with location. With the telephone number, location information is available from a LEA's own 911/Enhanced 911 (E911) database or from the telephone company's electronic records, such as the Loop Maintenance Operating System (LMOS).<sup>96</sup> We also note that the equivalent location information in the wireless (cellular or broadband PCS) environment appears to be the location of the cell sites to which the mobile terminal or handset is connected at the beginning and at the termination of the call. Provision of this particular location information does not appear to expand or diminish law enforcement's surveillance authority under prior law applicable to the wireline environment.

46. We will not, however, mandate a location tracking capability in this proceeding. While NYPD believes that a capability that identifies location more precisely would be useful to LEAs, we are concerned that such a capability poses difficulties that could undermine individual privacy. We believe that a more generalized capability that will identify only the location of a cell site, and only at the beginning and termination of the call, will give LEAs adequate information. We note, however, that our decision herein does not preclude LEAs from requesting legal authority to acquire more specific location information in particular circumstances. Accordingly, as has been agreed to by both DoJ/FBI and the telecommunications industry, we mandate a location capability that will identify cell site location at the beginning and termination of a call. As proposed in the *Further NPRM*, we require that this capability be deployed by carriers by the June 30, 2000 CALEA compliance deadline, unless carriers have obtained an extension.

## 2. Packet-Mode

47. *Background.* J-STD-025 provides for LEA access to call-identifying information and the interception of wire and electronic telecommunications, regardless of whether the telecommunications are carried in circuit-mode or in packet-mode.<sup>97</sup> It further states that the "call-identifying information associated with the circuit-mode content surveillance is provided on the [call data channel]," but does not specifically address whether call-identifying information, if any, associated with packet-mode surveillance must be provided over a call data channel.<sup>98</sup>

<sup>96</sup> See *Transmission Systems for Communications*, AT&T Bell Laboratories (5th ed. 1982).

<sup>97</sup> See J-STD-025, at §§ 3 and 4.5. Section 3 of J-STD-025 defines circuit-mode as "a communication using bi-directional paths switched or connected when the communication is established. The entire communication uses the same path." Section 3 defines packet-mode as "a communication where individual packets or virtual circuits of a communication within a physical circuit are switched or routed by the accessing telecommunication system. Each packet may take a different route through the intervening network(s)."

<sup>98</sup> *Id.*

**Federal Communications Commission****FCC 99-230**

48. The *Further NPRM* noted that packet data and packet-switching technology are potentially usable for both information services and telecommunications services, but that such technology is subject to CALEA requirements only to the extent it is used to provide telecommunications services, and not for information services. The *Further NPRM* also noted that privacy concerns could be implicated if carriers were to give to LEAs packets containing both call-identifying and call content information when only the former was authorized. The *Further NPRM* tentatively concluded that the record is not sufficiently developed to support any particular technical requirements for packet-mode communications, and therefore did not propose technical requirements for such communications. However, the *Further NPRM* sought comment on a wide range of issues to develop a sufficient record.<sup>99</sup>

49. *Comments.* EFF, EPIC, and ACLU state that our cautious approach regarding packet-mode communications is correct, and that it is critical that we adequately protect the privacy of communications carried on packet-mode systems. They state that the interim standard's requirement to deliver the entire packet data stream associated with a given communication violates the privacy provisions of section 103. Therefore, according to EFF, EPIC, and ACLU, until carriers are able to protect the privacy of communications carried over packet-mode systems, we should refrain from adopting capability requirements for such systems.<sup>100</sup>

50. CDT states that carriers using packet technologies have an obligation under CALEA to protect privacy by distinguishing between call content and call-identifying information, so that a LEA does not intercept the former when it has only the narrower authority for the latter. CDT contends that DoJ/FBI acknowledge that protecting privacy by distinguishing between call content and call-identifying information is technically trivial, but states that DoJ/FBI believe there is no obligation on carriers to protect privacy. CDT states that we should not wait until packet technologies are more fully deployed to clarify that carriers have an obligation to protect individual privacy.<sup>101</sup>

51. AT&T supports our tentative conclusion that packet-mode technologies may require differing CALEA solutions. AT&T states that it believes that if we defer setting packet-mode communications standards in this proceeding, industry associations will take up the issue on their own.<sup>102</sup>

52. TIA states that the telecommunications network is rapidly evolving toward a packet-based architecture. TIA cautions that the Commission not stifle the continued development of packet-mode technologies by imposing a solution that could require the redesign (or even abandonment) of certain technologies. TIA recommends that we consider establishing a separate packet-mode standard-setting effort within it.<sup>103</sup>

<sup>99</sup> *Further NPRM*, at ¶¶ 63-66.

<sup>100</sup> EPIC/EFF/ACLU Reply Comments, at 8-10.

<sup>101</sup> CDT Reply Comments, at ii-iii.

<sup>102</sup> AT&T Comments, at 25.

<sup>103</sup> TIA Comments, at ii, 47.



## Federal Communications Commission

## FCC 99-230

53. US West argues that risks to advanced services and the Internet support the deferral of any CALEA requirements on packet networks, at least until CALEA can be implemented without inhibiting the development of advanced telecommunications services. It further states that because many packet-mode communications will avoid the circuit-switched network altogether, carriers and manufacturers will have to develop and install CALEA solutions for different network elements from those used in circuit-switched networks. Additionally, US West asserts that separating the header from content in packet-mode communications is not feasible because packet data is delivered in a layered stack structure, and carriers have neither the ability nor any business reason to monitor packet data streams and then decipher the various protocols.<sup>104</sup>

54. DoJ/FBI argue that the interim standard's treatment of packet-mode communications in pen register cases does not conflict with anything in CALEA, and hence that standard is not deficient in this regard. DoJ/FBI state that, as a technical matter, it is perfectly feasible for a LEA to employ equipment that distinguishes between a packet's header and its communications payload and makes only the relevant header information available for recording or decoding. DoJ/FBI further state that the statutory distinction between telecommunications carriers and providers of information services does not correspond to any distinction between packet-mode and circuit-mode communications; therefore, the use of packet-mode protocols does not turn the transmission of a wire or electronic communication by a telecommunications carrier into the provision of information services.<sup>105</sup>

55. *Discussion.* We find that the approach taken with regard to packet-mode communications in J-STD-025 raises significant technical and privacy concerns. Under this standard, LEAs would be provided with both call-identifying information and call content even in cases where a LEA is authorized only to receive call-identifying information (*i.e.*, under a pen register). We are aware that packet-mode technology is rapidly changing, and that different technologies may require differing CALEA solutions for separating call-identifying information from call content.<sup>106</sup> We also recognize that we must avoid implementing CALEA requirements that could impede the development of new technologies. We do not believe that the record

<sup>104</sup> US West Comments, at i-ii and 27-28.

<sup>105</sup> DoJ/FBI Comments, at 79-82.

<sup>106</sup> For example, J-STD-025 itself states that a packet data IAP provides access to the following eight packet-mode services: Integrated Services Digital Network (ISDN) user-to-user signaling; ISDN D-channel X.25 packet services; Short Message Services (SMS) for cellular and broadband PCS (*e.g.*, NAMPS, TIA/EIA-41, PCS1900, or GSM-based technologies); wireless packet-mode data services (*e.g.*, Cellular Digital Packet Data (CDPD), Code Division Multiple Access (CDMA), Time Division Multiple Access (TDMA), PCS1900, or GSM-based packet-mode services); X.25 services; TCP/IP services; paging (one-way or two-way); and packet-mode services using traffic channels. J-STD-025 at § 4.5.2. In addition, we note that there may be other packet technologies warranting discussion. This appears especially so, given that many carriers now provide so-called fast packet services such as frame relay and Asynchronous Transfer Mode (ATM).

**Federal Communications Commission****FCC 99-230**

sufficiently addresses packet technologies and the problems that they may present for CALEA purposes. For example, some packet technologies (e.g., frame relay, ATM, X.25) are connection oriented--i.e., there are call set-up and take-down processes, similar to those used in circuit switched voice networks, whereby addressing information is made available to the carrier separate from and before call content is transmitted. Other packet technologies (e.g., internet protocol based solutions) would not be processed this way. We believe that further efforts can be made to find ways to better protect privacy by providing law enforcement only with the information to which it is lawfully entitled. We note that TIA recommends further study of this matter. Accordingly, we invite TIA to study CALEA solutions for packet-mode technology and report to the Commission in one year on steps that can be taken, including particular amendments to J-STD-025, that will better address privacy concerns. In the interim, we find that packet-mode communications, including call-identifying information and call content, may be delivered to law enforcement under the interim standard.<sup>107</sup> Further, we are herein requiring that packet-mode communications be delivered to LEAs under that standard no later than September 30, 2001.<sup>108</sup> That date is 15 months after the June 30, 2000 CALEA compliance deadline, and will afford manufacturers that have not yet developed a packet-mode capability the time needed to do so.

56. We recognize that the solution we have crafted above is not perfect because a LEA may receive both call identifying information and call content under a pen register. We note, however, that independent legal barriers exist which will protect, to a certain extent, the privacy rights of individuals until a permanent solution is developed. In particular, under this interim arrangement the LEA will be legally prohibited from using any content information in a court proceeding if it has only a pen register or trap and trace authorization.<sup>109</sup> We find, therefore, that in weighing the factors identified under section 107(b) of CALEA--that is, in particular, (1) to meet the assistance capability requirements of section 103 by cost effective methods, (2) to protect the privacy and security of communications not authorized to be intercepted, and (3) to encourage the provision of new technologies and services to the public --we believe that the above solution provides the most suitable temporary remedy available at this time. We emphasize, however, that we intend this solution to be only an interim one. We recognize that, in view of the growing importance of packet-mode communications, a timely permanent solution is essential. Accordingly, we expect that TIA will deliver a report to us no later than September 30, 2000 that will detail a permanent solution, keeping in mind the objectives underlying CALEA which are described in paragraph 2, *supra*.

**C. DoJ/FBI Punch List**

<sup>107</sup> We recognize that call identifying information for packet technologies also may be acquired from the carrier's records.

<sup>108</sup> In the *Further NPRM*, we stated that we would set a separate deadline for compliance with the additional technical requirements that we determine CALEA mandates. *See Further NPRM*, at ¶ 133. We note that we are also adopting a September 30, 2001 compliance date for the six punch list items that we are herein mandating. *See* ¶ 129, *infra*.

<sup>109</sup> *See* 18 U.S.C. §§ 2515 and 2518.

**Federal Communications Commission****FCC 99-230**

57. Section 103(a)(1) of CALEA authorizes telecommunications carriers to provide to LEAs call content information, pursuant to a court order or other lawful authorization; and section 103(a)(2) of CALEA authorizes telecommunications carriers to provide to LEAs call-identifying information, pursuant to a court order or other lawful authorization.<sup>110</sup> Call-identifying information, however, must be provided only if it is reasonably available to the carrier.<sup>111</sup> The *Further NPRM* tentatively concluded that the provision by carriers to LEAs of the content of subject-initiated conference calls is authorized by section 103(a)(1); and that party hold, join, drop on conference calls, subject-initiated dialing and signaling information, timing information, and dialed digit extraction constitute call-identifying information under section 102(2) of CALEA and therefore must be provided, where reasonably available, under section 103(a)(2).<sup>112</sup>

**1. Content of subject-initiated conference calls**

58. *Background.* This capability would permit the LEA to monitor the content of conversations connected via a conference call set up by the facilities under surveillance. Surveillance of all portions of a conference call would continue, even if any party to the call utilized services such as hold, call waiting, or three-way calling. For example, if anyone involved in a conference call were placed on hold, all remaining conversations would continue to be available to the LEA for monitoring. The ability to monitor would continue even after the subject drops off the conference call.

59. The *Further NPRM* tentatively concluded that the provision to LEAs of the content of subject-initiated conference calls is a technical requirement that meets the assistance capability requirements of section 103(a) of CALEA. The *Further NPRM* also sought comment as to how the Commission should define or interpret section 103's use of the phrase "equipment, facilities, or services" in the context of subscriber-initiated conference calls.<sup>113</sup> The five manufacturers' aggregate revenue estimate for this capability is \$37 million.<sup>114</sup>

60. *Comments.* TIA states that the interim standard already provides LEAs access to the content of most conference calls. TIA contends that access is not provided in only a few situations in which the subject's terminal equipment is not connected to the call. TIA further contends that while providing this capability to LEAs is technically feasible, it would require a large redeployment effort by most manufacturers -- particularly with respect to provisioning a separate call content channel to monitor the conversations of any parties on hold.<sup>115</sup>

61. Bell Atlantic argues that providing the conference calling feature as proposed would give LEAs an expanded capability. Bell Atlantic states that while multi-party calling

<sup>110</sup> 47 U.S.C. § 1002(a)(1)-(2).

<sup>111</sup> 47 U.S.C. § 1002(a)(2).

<sup>112</sup> *Further NPRM*, at ¶¶ 77-79, 85-87, 91-94, 104-105, and 128.

<sup>113</sup> *Id.* at ¶¶ 77-79.

<sup>114</sup> *See Public Notice*, at 4.

<sup>115</sup> TIA Comments, at 27-28.

**Federal Communications Commission****FCC 99-230**

services and conference calling have been available for many years, LEAs have not had the ability to monitor all parties to a multiparty conference call after the subject of the surveillance has left the call or has put the call on hold.<sup>116</sup> EPIC, EFF, and ACLU agree that our proposal would permit expanded access to conversations of participants in subject-initiated conference calls, and they contend that this expansion would be inconsistent with statutory and constitutional limitations because it would expand the facilities doctrine<sup>117</sup> of Title III of the Omnibus Crime Control and Safe Streets Act of 1968, as modified by the Electronic Communications Privacy Act of 1986.<sup>118</sup> EPIC, EFF, and ACLU state that a LEA with authority to monitor only the subject's facilities should not be permitted to trace conversations on network resources once the subscriber disconnects.<sup>119</sup>

62. AT&T states that not all conference calls are subscriber-based. It maintains that on-demand services such as "Meet Me" conference calling, in which the carrier or a third party provider makes a conference bridge available to anyone, are not covered by CALEA because there is no subscriber.<sup>120</sup> Ameritech agrees, stating that conference bridging services must be excluded because they are not "equipment, facilities, or services of a subscriber." Ameritech contends that such services do not permit carriers to know when conference calls will occur and which telecommunications providers will be used to establish the calls.<sup>121</sup>

63. DoJ/FBI contend that the proposed conference calling capability is consistent with CALEA. They maintain that when a subscriber's service supports the ability of other participants in a conference call to continue to speak to one another when the subscriber places them on hold or hangs up, the conversations of these other participants constitute "communications" to or from the subscriber's "equipment, facilities, or services," and therefore come within the scope of section 103(a)(1). DoJ/FBI also assert that call hold is similar to call forwarding, which the legislative history of the Act makes clear was one of the principal features that Congress intended to reach when it enacted CALEA. DoJ/FBI state that the facilities of callers who have been placed on hold are supported by the subscriber's conference calling service even if the communication is no longer routed through the subscriber's switch to his terminal equipment.<sup>122</sup> DoJ/FBI further argue

<sup>116</sup> Bell Atlantic Comments, at 4.

<sup>117</sup> The parties argue that courts have traditionally considered "facilities" to be a subscriber's terminal equipment or, with conference bridges, the connection between the subscriber's terminal equipment and the subscriber side port of the carrier's switch. EPIC, EFF, and ACLU Comments, at 20-21.

<sup>118</sup> Omnibus Crime Control and Safe Streets Act of 1968, Pub. L. No. 90-351, 82 Stat. 212 (1968), and Electronic Communications Privacy Act of 1986, Pub. L. No. 99-508, 100 Stat. 1848 (1986) (together codified as amended in 18 U.S.C. §§ 2510-2522 and in other sections of 18 U.S.C.). These statutory provisions delineate the scope and limitations of federal wiretap surveillance authority.

<sup>119</sup> EPIC, EFF, and ACLU Comments, at 20-21.

<sup>120</sup> AT&T Comments, at 7-8.

<sup>121</sup> Ameritech Comments, at 6.

<sup>122</sup> DoJ/FBI Reply Comments, at 32, 39.

**Federal Communications Commission****FCC 99-230**

that commenters' arguments that meet-me conference services are outside the scope of a carrier's obligations under section 103 is repudiated by the interim standard. DoJ/FBI state that a party that contracts for meet-me conference service is no less a subscriber than a party that arranges for conventional conference calling service. Finally, DoJ/FBI contend that in no case would a LEA need to use more than two call content channels to monitor a conference call because DoJ/FBI are not seeking separated delivery of each leg of a held call on a different call content channel.<sup>123</sup>

64. *Discussion.* We find that, under certain circumstances discussed below, the provision of the content of subject-initiated conference calls is a technical requirement that meets the assistance capability requirements of section 103.<sup>124</sup> Under these circumstances, with appropriate lawful authorization, the LEA is entitled to "intercept, to the exclusion of any other communications, all wire and electronic communications carried by the carrier within a service area to or from equipment, facilities, or services of a subscriber."<sup>125</sup>

65. As we stated in the *Further NPRM*, we recognize that different carriers provide conference calling features in various ways and that not all carriers' system architectures are the same.<sup>126</sup> Conference calling features include various types of multi-party calls, such as three-way calling where a bridge is established in the subscriber's serving switch, as well as "meet me" or conference bridge services where a bridge is established at a remote switch of another carrier. Some of these services are available as a standard subscriber option from a customer's presubscribed carrier, while others are available on a demand basis from multiple carriers. Some systems are designed, for example, to allow a conference call that is initiated by the subject to continue among other parties on the call even after the subject drops off the call, either by putting the call on hold or terminating the connection; other systems do not offer this feature. When a system is designed to allow the conference call to continue, we conclude that carriers must provide the content of the call under the following circumstances.

66. Clearly, a LEA, pursuant to a court order or other lawful authorization, is entitled to the content of the conference call when the subject's facilities initiate the call and are being used to participate in the call. In this case, an open circuit is maintained between the subject's equipment, facilities and services and the other parties on the call. When the subject puts the conference call on hold, the subject's circuit to the conference call is maintained within the carrier's network (usually at the subscriber's serving switch), thus allowing the subject to rejoin easily the call without having to reinitiate the circuit. In this case, we find that the communication continues to or from the equipment, facility or service of the subscriber, and thus the carrier also must provide the content of the communication among the other parties to the conference call. In both cases, however, we conclude that the carrier does not have to provide access to the content of the communication between a participant of the conference call other than the subject and any person with whom that participant speaks on an alternative line; e.g., when A, the subject, is on a conference call with B and C, we conclude that C's conversations with D on call waiting do not

<sup>123</sup> DoJ/FBI Reply Comments, at 32-35.

<sup>124</sup> 47 U.S.C. § 1006(b).

<sup>125</sup> 47 U.S.C. § 1002(a)(1).

<sup>126</sup> *Further NPRM*, at para. 78.

**Federal Communications Commission****FCC 99-230**

have to be provided by the carrier. We also conclude that the anticipated costs to carriers of adding the conference call capability in these cases is not so exorbitant as to require automatic exclusion of the capability. In percentage terms, based on the manufacturers' aggregate revenue estimates, these costs would be 4% of the core interim standard and 9% of the total punch list.<sup>127</sup>

67. We reach a different conclusion when the subject terminates his circuit connection to the conference call. In this case, the communication between other participants no longer is to or from the subscriber's equipment, facilities, and services, and may no longer even be "carried by the carrier within a service area" to or from the subscriber of the carrier, pursuant to section 103(a) and (d).<sup>128</sup> This is especially true with conference bridges located in remote switches of other carriers. We conclude that it is not reasonable to require the carrier to provide at its IAP the communications of other parties continuing on the conference call after the subject terminates his circuit connection to the call because to do so would not be a cost-effective method of implementing the conference call intercept and may not protect the privacy and security of communications not authorized to be intercepted, pursuant to section 107(b).<sup>129</sup> We recognize, as DoJ/FBI acknowledge, that if the subject arranges for a "meet me" conference bridge, the LEA will need a Title III order to cover the communication of the conference bridge.<sup>130</sup> Under those circumstances, the carrier that provides the conference bridge should provide an IAP to the LEA.<sup>131</sup>

<sup>127</sup> See Appendix B, *infra*.

<sup>128</sup> Sections 103 (a)(1) and (d) of CALEA, 47 U.S.C. §§ 1002(a)(1) and (d). Section 103(a)(1) requires a carrier to "ensure that its equipment, facilities, or services ... are capable of ... expeditiously isolating and enabling [lawful interception of] all wire and electronic communications carried by the carrier within a service area to or from equipment, facilities, or services of a subscriber of such carrier ..." (italics added). Section 103(d) requires that when a commercial mobile service carrier conducting a lawful interception of wire and electronic communications loses "access to the content of such communications or call-identifying information within the service area ..., information is made available to the government ... identifying the provider of a wire or electronic communication service that has acquired access to the communications'" (italics added).

<sup>129</sup> We recognize that some multi-party calls may be bridged within the subscriber's serving switch, and thus may continue to be within the service area, pursuant to section 103 (a) and (d). Nonetheless, we will not require a carrier to provide the communications of other parties continuing on the call after the subject terminates his connection because to do so may not protect the privacy and security of communications not authorized to be intercepted.

<sup>130</sup> DoJ/FBI Reply Comments, at n.9 (For Title III purposes, a meet-me conference bridge ordinarily will constitute a separate "facility" from the local switch associated with the subscriber's own directory number, and law enforcement therefore will be responsible for obtaining a new Title III order that covers the conference bridge.) Consequently, we do not reach the argument raised by EPIC, EFF and ACLU that implementing the conference call capability as requested by DoJ/FBI would expand Title III's facilities doctrine.

<sup>131</sup> In some cases, the subject's carrier and the conference bridge carrier may be the same and, indeed, the bridge may be located in the subscriber's serving switch. Thus, in some cases the carrier and the LEA may agree to locate one IAP at a point capable of capturing all communications covered by Title III authority.

## Federal Communications Commission

## FCC 99-230

**2. Party hold, join, drop on conference calls**

68. *Background.* This capability also involves features designed to aid a LEA in the interception of conference calls. This capability would permit the LEA to receive from the telecommunications carrier messages identifying the parties to a conversation at all times. The party hold message would be provided whenever one or more parties are placed on hold. The party join message would report the addition of a party to an active call or the reactivation of a held call. The party drop message would report when any party to a call is released or disconnects and the call continues with two or more other parties.

69. The *Further NPRM* tentatively concluded that this capability constitutes call-identifying information and therefore must be provided by the carrier to the LEA where reasonably available. The *Further NPRM* noted, however, that LEA access to party hold, join, and drop information would be required only in cases where a carrier's facilities, equipment, or services are involved in providing the service; *i.e.*, where a network signal is generated. To the extent that customer premises equipment (CPE) is used to provide this service, the *Further NPRM* tentatively concluded that party hold, join, and drop information could not be made reasonably available to the LEA because no network signal would be generated.<sup>132</sup> The five manufacturers' aggregate revenue estimate for this capability is \$64 million.<sup>133</sup>

70. *Comments.* AT&T states that currently carriers do not generate party join and drop messages, and argues that party hold messages are more appropriately classified as subject-initiated signaling. AT&T contends that whether a party joins or drops from a call has no bearing on the continuity of a call or the communications that may be made during the call, and that a call leg does not constitute either a call or a communication. Finally, AT&T argues that if we sustain our tentative conclusion with respect to this capability, we should simply require that industry provide for dynamic reporting of participant changes in a subscriber-initiated conference call because industry may have more efficient or effective ways than party messages to report joins and drops from the call.<sup>134</sup>

71. Bell Atlantic argues that if a carrier were to provide information that a party has been added to or disconnected from a call or has been put on hold, that would be a significant enhancement to existing or previous wiretapping capabilities, and would be beyond the scope of section 103(a)(5). Bell Atlantic also argues that the words "the origin, direction, destination, or termination" in section 102(2) have physical rather than temporal meanings, that is, they refer to places or locations in the network. Thus, information identifying the "termination" of a call would be the telephone number called, and would not include special information about when one leg of a multi-party calls ends. Finally, Bell Atlantic asserts that party hold, join, or drop information may not be reasonably available to the carrier because conference call capabilities are often provided through equipment that is external to the switch and may even belong to a service

<sup>132</sup> *Further NPRM*, at ¶¶ 85-87.

<sup>133</sup> *See Public Notice*, at 4.

<sup>134</sup> AT&T Comments, at 8-10.

**Federal Communications Commission****FCC 99-230**

provider unrelated to the carrier.<sup>135</sup>

72. TIA states that, while this item is technically feasible, the provision of party hold, join, and drop information in the manner sought by the FBI would require considerable software coding to add additional call processing traps and new messages necessary to report the information. TIA further states that the interim standard already permits LEAs access to party join and drop information, and therefore, the only additional capability LEAs would receive under this punch list item is hold information. TIA contends, however, that such information is not always detected by the switch and even when it is detected, the switch may not have the specific identification information requested by the FBI.<sup>136</sup>

73. DoJ/FBI argue that without party hold, join, and drop information, a LEA often would not know who joins or leaves a conference call, whether the subject alternated between legs of the call, or which parties may have heard or said particular communications during the course of the call. They also contend that we should not use the instant proceeding to determine whether such information is reasonably available to particular carriers or platforms, but should frame an appropriate definition of reasonably available and leave the application of that definition to be worked out by individual carriers and LEAs on a case-by-case basis. DoJ/FBI further argue that the interim standard's Change message<sup>137</sup> is not a substitute for party join information because: (1) the Change message is triggered by changes in *call* identities,<sup>138</sup> rather than by changes in *party* identities,<sup>139</sup> and therefore will not identify party joins if a manufacturer uses a single call identity to cover multiple legs of a call; (2) the interim standard's Release message<sup>140</sup> is not a proxy for a party drop message because it does not require a carrier to send the Release message when a single call leg or call appearance is released; and (3) the industry has not suggested that the interim standard provides any message that notifies the LEA of party holds.<sup>141</sup> Additionally, DoJ/FBI contend that commenters who oppose this capability err by treating a multi-party, multi-leg call as a single communication because doing so would mean that the LEA in many cases would lack proof of which party participated in a particular conversation and which parties did not. Finally, DoJ/FBI assert that the industry argument that this capability does not exist today confuses the information available to the network and the messages used to encapsulate the information and convey it to the LEA. DoJ/FBI maintain that whether particular information exists in a network is relevant to a carrier's obligations under section 103(a)(2), but that whether a particular message exists is irrelevant to the carrier's obligations.<sup>142</sup>

<sup>135</sup> Bell Atlantic Comments, at 8-11.

<sup>136</sup> TIA Comments, at 29.

<sup>137</sup> The Change message is used to report merging or splitting of connection-oriented call identities. J-STD-025, at § 6.34.

<sup>138</sup> The Call Identity parameter is used to uniquely identify a particular call, call appearance, or call legs within the context of a single system. J-STD-025, at § 6.42.

<sup>139</sup> The Party Identity parameter identifies a party to a call or call attempt. J-STD-025, at § 6.47.

<sup>140</sup> The Release message is used to report that a connection-oriented call has been released. J-STD-025, at § 6.38.

<sup>141</sup> DoJ/FBI Comments, at 45-47.

<sup>142</sup> DoJ/FBI Reply Comments, at 40-41.



**Federal Communications Commission****FCC 99-230**

74. *Discussion.* We find that party hold/join/drop information falls within CALEA's definition of "call-identifying information" because it is "signaling information that identifies the origin, direction, destination, or termination of each communication generated or received" by the subject.<sup>143</sup> Party join information appears to identify the origin of a communication; party drop, the termination of a communication; and party hold, the temporary origin, temporary termination, or re-direction of a communication. This capability also appears to be necessary to enable the LEA to isolate call-identifying and content information because, without it, the LEA would be unable to determine who is talking to whom, and, more accurately, to focus on the subject's role in the conversation.<sup>144</sup> Further, by isolating the call-identifying information in this manner, the LEA can screen out third parties who are not privy to the communications involving the subject, thereby furthering privacy considerations.

75. We further find that party hold/join/drop information is reasonably available to the carrier in those cases where the carrier's facilities, equipment or services are involved in providing the service, and that the anticipated costs to carriers of adding this capability are not so exorbitant as to require automatic exclusion of the capability. In percentage terms, based on the manufacturers' aggregate revenue estimates, these costs would be 7% of the core interim standard and 15% of the total punch list.<sup>145</sup> To the extent that CPE is used to provide such features, we conclude that party hold/join/drop information is not reasonably available to the LEA since no network signal would be generated. Thus, we conclude that the provision of party hold, join, and drop information on conference calls, to the extent a network signal is generated, is a technical requirement that meets the assistance capability requirements of section 103.<sup>146</sup>

### **3. Subject-initiated dialing and signaling information**

76. *Background.* This capability would permit the LEA to be informed when a subject using the facilities under surveillance uses services such as call forwarding, call waiting, call hold, and three-way calling. DoJ/FBI requests this information for each communication initiated by the subject. This capability would require the telecommunications carrier to deliver a message to the LEA, informing the LEA that the subject has invoked a feature that would place a party on hold, transfer a call, forward a call, or add/remove a party to a call.

77. The *Further NPRM* tentatively concluded that this capability fits within the definition of call-identifying information and therefore must be provided by the carrier to the LEA where reasonably available.<sup>147</sup> The *Further NPRM* requested comment on whether remote

<sup>143</sup> Section 102(2) of CALEA, 47 U.S.C. § 1001(2).

<sup>144</sup> We note that Section 103 specifically requires a telecommunications carrier to:

(a) ensure that its equipment, facilities, or services that provide a customer or subscriber with the ability to originate, terminate, or direct communications are capable of --

(2) expeditiously isolating and enabling the government, pursuant to a court order or other lawful authorization, to access call-identifying information that is reasonably available to the carrier --

(B) in a manner that allows it to be associated with the communication to which it pertains.

<sup>145</sup> See Appendix B, *infra*.

<sup>146</sup> 47 U.S.C. § 1006(b).

<sup>147</sup> *Further NPRM*, at ¶¶ 91-94.

**Federal Communications Commission****FCC 99-230**

subject-initiated dialing and signaling should affect this tentative conclusion, and noted that to the extent CPE is used to initiate dialing and signaling no information need be provided to the LEA. The five manufacturers' aggregate revenue estimate for this capability is \$35 million.<sup>148</sup>

78. *Comments.* SBC and USTA state that subject-initiated dialing and signaling information is not call-identifying and may not be reasonably available.<sup>149</sup> SBC argues that only if the subscriber action can be detected within a CALEA-equipped switch does this feature meet the standard, and it is unknown whether a signal of this nature can be incorporated into the switch by manufacturers at a reasonable cost.<sup>150</sup>

79. TIA states that subject-initiated dialing and signaling information has nothing to do with call processing, and that the interim standard generally provides all of the relevant call-identifying information. TIA contends that the only additional information the LEA would receive under this punch list item is the identity of the keys pressed by the subject to enable the feature, and most manufacturers would have to make fairly substantial modifications to their equipment to capture and report such information.<sup>151</sup>

80. BellSouth contends that subject-initiated dialing and signaling information would be redundant with the information provided by party join, hold, and drop messages. BellSouth also states that privacy concerns would be raised by this capability.<sup>152</sup>

81. DoJ/FBI contend that industry's arguments that information about a subject's use of flash hook, feature keys, and similar activity is not call-identifying are incorrect. DoJ/FBI argue that a subject's use of these feature keys changes the connections between the parties to a call, and in so doing changes the "direction" and "destination" (and in some cases "origin" or "termination") of one or more "communication[s] generated or received" by the subject. Moreover, DoJ/FBI argue that any use of feature keys or flash hooks by a subject to control a call constitutes "direction" of the communication by the subject. DoJ/FBI further argue that BellSouth's suggestion that the information a LEA would derive from a subject's dialing and signaling activity is redundant with the information it would learn from party join, hold, drop messages is incorrect because dialing and signaling may be either pre- or post-cut-through, and may be transmitted either in- or out-of-band. DoJ/FBI states that some of this activity may result in party joins, holds, or drops, but much of it will not; and that, conversely, there will be many instances in which a change in party connections does not reflect any subject-initiated dialing and signaling activity.<sup>153</sup>

82. *Discussion.* We conclude that subject-initiated dialing and signaling information fits within the definition of call-identifying information contained in section 102(2) of CALEA,

<sup>148</sup> See *Public Notice*, at 4.

<sup>149</sup> SBC Comments, at 13; USTA Comments, at 15.

<sup>150</sup> SBC Comments, at 13-14.

<sup>151</sup> TIA Comments, at 30-32.

<sup>152</sup> BellSouth Comments, at 16.

<sup>153</sup> DoJ/FBI Reply Comments, at 44-47.

**Federal Communications Commission****FCC 99-230**

and that the anticipated costs to carriers of adding this capability are not so exorbitant as to require automatic exclusion of the capability. In percentage terms, based on the manufacturers' aggregate revenue estimates, these costs would be 4% of the core interim standard and 8% of the total punch list.<sup>154</sup> Call-forwarding signaling information identifies the direction and destination of a call, and call-waiting signaling information identifies the origin and termination of each communication. We also conclude that access to subject-initiated dialing and signaling information may be necessary in order for the LEA to isolate and correlate call-identifying and call content information. Knowing what features a subject is using will ensure that the LEA receives information "in a manner that allows it to be associated with the communication to which it pertains."<sup>155</sup> For example, without knowing that a subject has switched over to a call on call-waiting, the LEA may not be able to associate the call-identifying information with the call content to which it pertains and thus could be more likely to mistake one call for another. Further, we conclude that all in-band signals generated by a subject that must be processed at the IAP (e.g., rotary dial pulse digits, on-hook, off-hook, and flashes) are reasonably available to the carrier. Dual tone multi-frequency (DTMF) signals generated by a subject that must be processed at the IAP also are reasonably available to the carrier; however, some DTMF signals generated by the subject are post-cut-through digits and are addressed separately in this order. To the extent CPE is used to perform any of the functions described here, and no network signal is generated, that information is not reasonably available to a carrier, and thus, is not required to be provided.<sup>156</sup> Thus, we conclude that the provision of subject-initiated dialing and signaling information is a technical requirement that meets the assistance capability requirements of section 103.<sup>157</sup>

#### **4. In-band and out-of-band signaling**

83. *Background.* This technical requirement would enable a telecommunications carrier to send a notification message to the LEA when any network message (ringing, busy, call waiting signal, message light, *etc.*) is sent to a subject using facilities under surveillance. For example, if someone leaves a voice mail message on the subject's phone, the notification to the LEA would indicate the type of message notification sent to the subject (such as the phone's message light, audio signal, text message, *etc.*). For calls the subject originates, a notification message would also indicate whether the subject ended a call when the line was ringing, busy (a busy line or busy trunk), or before the network could complete the call.

84. The *Further NPRM* stated that certain types of in-band and out-of-band signaling, such as notification that a voice mail message has been received, appear to constitute call-identifying information; whereas other types of in-band and out-of-band signaling may constitute call content information and thus would raise questions as to under what authority they should be provided to the LEA. The *Further NPRM* therefore sought comment on what types constitute a technical requirement necessary to meet the CALEA assistance capability requirements.<sup>158</sup> The

<sup>154</sup> See Appendix B, *infra*.

<sup>155</sup> Section 103(a)(2)(B) of CALEA, 47 U.S.C. § 1002(a)(2)(B).

<sup>156</sup> See sections 103(a)(2) and 103 (b)(1)(A) of CALEA, 47 U.S.C. §§ 1002(a)(2) and 1002(b)(1)(A).

<sup>157</sup> 47 U.S.C. § 1006(b).

<sup>158</sup> *Further NPRM*, at ¶¶ 99-100.

**Federal Communications Commission****FCC 99-230**

five manufacturers' aggregate revenue estimate for this capability is \$57 million.<sup>159</sup>

85. *Comments.* Nextel and PCIA each state that in-band and out-of band signaling information is not call-identifying because in-band and out-of-band messages are not used to route calls, but merely inform the subject as to the status of calls made or received.<sup>160</sup> Nextel states that what identifies the origin, direction, destination, or termination of a call are the numbers dialed, not any subsequent network signal that provided information about the call.<sup>161</sup>

86. TIA states that certain types of network signaling may constitute call-identifying information or call content, but most of the broad range of signals sought by the FBI are neither. TIA maintains that there are hundreds of features supported by modern switches that provide some sort of signaling within the scope of the FBI's request, and that in order to report this signaling each of these features would require software modifications, affecting the entire system architecture. TIA asserts that if we require carriers to report any such signals, we should specify which signals are covered and should clarify that carriers can provide notification only of those signals that are sent to the subject's unit and that are generated by the serving switch.<sup>162</sup> SBC generally agrees with TIA, and also states that to the extent that network signaling can be audibly detected over the subject's subscriber line, they constitute call content and can be obtained only under a Title III authorization.<sup>163</sup>

87. Ameritech states that a notification that a voice mail message has been received is not call-identifying information because that type of message is associated with the provision of an information service, which we acknowledge is not part of CALEA.<sup>164</sup> Nextel and US West, Inc. (US West) agree.<sup>165</sup>

88. DoJ/FBI state that, contrary to industry commenters, network signaling constitutes call-identifying information because without such signaling, a subject will be unaware that an incoming call is taking place and the calling party will never reach the subject. DoJ/FBI further state that there are many circumstances in which the interim standard's existing messages, such as the Termination Attempt message,<sup>166</sup> will not provide the LEA with knowledge of the network signaling presented to the subject. Additionally, DoJ/FBI state that SBC's argument that audible network signals constitute call content is not legally supported because Title III is designed to protect communications between the parties using a telecommunications network, not signaling by the network. Finally, DoJ/FBI argue that network notification of waiting voice mail messages

<sup>159</sup> See *Public Notice*, at 4.

<sup>160</sup> Nextel Comments, at 13; PCIA Comments, at 29.

<sup>161</sup> Nextel Comments, at 13.

<sup>162</sup> TIA Comments, at 32-33.

<sup>163</sup> SBC Comments, at 14.

<sup>164</sup> Ameritech Comments, at 8.

<sup>165</sup> Nextel Comments, at 14; US West Comments, at 20-21.

<sup>166</sup> The Termination Attempt message is used to report a connection-oriented call termination attempt.

J-STD-025, at § 6.3.10.

**Federal Communications Commission****FCC 99-230**

is covered by section 103 because when a carrier sends a network notification message to alert a subscriber that he has received a voice mail message, the carrier is not acting as an information service provider.<sup>167</sup>

89. *Discussion.* We conclude that some in-band and out-of-band signaling constitutes call-identifying information under section 102(2) of CALEA and that the anticipated costs to carriers of adding this capability are not so exorbitant as to require automatic exclusion of the capability. In percentage terms, based on the manufacturers' aggregate revenue estimates, these costs would be 6% of the interim core standard and 14% of the total punch list. Certain types of signals, such as ringing and busy signals, clearly fall within the scope of call-identifying information because they indicate information about the termination of a call. Other types of signals, however, may simply be used by carriers for supervision or control of certain functions and features of the network and do not trigger any audible or visual message to the subscriber and, thus, would not be call-identifying information. We thus conclude that in-band and out-of-band signals that are generated at the IAP toward the subscriber (e.g., call waiting or stutter dial tone) and that are being used for call processing purposes are call identifying information that is reasonably available to the carrier. Other signals that provide call identifying information (e.g., busy, fast busy, audible ringing tone), although generated elsewhere in the carrier's network, pass through the IAP on their way to the subject even if they are not used for call processing and can be made available without excessive modifications to the network and thus are reasonably available to the carrier. To the extent CPE is used to perform any of the functions described here, and no network signal is generated, that information is not reasonably available to a carrier and thus is not required to be provided.

**5. Timing information**

90. *Background.* In those cases where the LEA has obtained authorization to intercept both content and call-identifying information, this capability would require that a telecommunications carrier send call timing information to the LEA so that the LEA could associate the call-identifying information with the actual content of the call. There would be two elements to this capability:

- 1) Each call-identifying message (answer message, party join message, party drop message, *etc.*) would be time stamped within a specific amount of time from when the event triggering the message occurred. This time-stamp would allow the LEA to associate the message with the call content information (*i.e.*, the conversation). DoJ/FBI propose that the time stamp be accurate to within 100 milliseconds.
- 2) A carrier would be required to send the call-identifying message to the LEA within a defined amount of time after the event to permit the LEA to associate the number dialed to the conversation. DoJ/FBI propose that the event be defined as the time the message is received at the switch's IAP, and that delivery from the

<sup>167</sup> DoJ/FBI Reply Comments, at 49-51.

**Federal Communications Commission****FCC 99-230**

IAP to the LEA's Collection Function<sup>168</sup> take place within 3 seconds 99% of the time.

91. The *Further NPRM* tentatively concluded that this capability is call-identifying information and therefore must be provided by the carrier to the LEA where reasonably available.<sup>169</sup> The five manufacturers' aggregate revenue estimate for this capability is \$20 million.<sup>170</sup>

92. *Comments.* Industry commenters argue that timing information is not call-identifying and is not required by CALEA. AirTouch states that a time stamp is not part of the call, does not identify the origin, direction, destination, or termination of the call, and would not have been picked up from the call on a traditional pen register or trap and trace interception.<sup>171</sup> Ameritech and AT&T similarly assert that timing information is not call-identifying, and AT&T proposes that any timing requirements be message specific, taking into account the nature of the event that prompts the message and its relative importance to a LEA to know it.<sup>172</sup> AT&T argues that any timing requirement should have to be met only 95% of the time.<sup>173</sup> Finally, Sprint PCS states that it already provides LEAs with various types of call identifying information within 4-6 seconds of the event's occurring.<sup>174</sup>

93. TIA states that it disagrees that timing information is call-identifying, but says that it does not oppose a timing provision within the final standard. TIA asserts that while manufacturers would prefer to maintain the standard's "expeditious access" requirement,<sup>175</sup> they are willing to replace that provision with a specific amount of time, as long as that time is reasonable and consistent with current system architectures. TIA proposes that such a timing requirement apply to the time between detection of the event by the interim standard's Delivery Function<sup>176</sup> and the sending of the call-identifying message from the Delivery Function toward the LEA's Collection Function, and that the message be sent within eight seconds 95% of the time, and with an accuracy near 200 milliseconds.<sup>177</sup>

<sup>168</sup> The Collection Function is responsible for collecting lawfully authorized intercepted communications (i.e., call content) and call-identifying information for a LEA. The Collection Function is the responsibility of the LEA. J-STD-025, at § 5.3.1.3.

<sup>169</sup> *Further NPRM*, at ¶¶ 104-105.

<sup>170</sup> *See Public Notice*, at 4.

<sup>171</sup> AirTouch Comments, at 22.

<sup>172</sup> AirTouch Comments, at 10; AT&T Comments, at 14-15.

<sup>173</sup> AT&T Comments, at 15.

<sup>174</sup> Sprint PCS Reply Comments, at 3.

<sup>175</sup> The Call-Identifying Information Intercept Access Point provides expeditious access to the reasonably available call-identifying information for calls made by an intercept subject or for calls made to an intercept subject. J-STD-025, at § 4.4.

<sup>176</sup> The Delivery Function is responsible for delivering intercepted communications and call-identifying information to one or more Collection Functions. J-STD-025, at § 5.3.1.2.

<sup>177</sup> TIA Comments, at 35-37.

**Federal Communications Commission****FCC 99-230**

94. DoJ/FBI argue that the interim standard must be modified to incorporate a specific timing requirement in order to give effect to the general timing provisions of section 103(a)(2).<sup>178</sup> They further argue that the timing requirements they suggest are feasible and constitute a performance standard, not a design standard; and that we are not being asked to prescribe any specific design by which the timing requirements are to be met.<sup>179</sup> NYPD agrees with DoJ/FBI that the requested 3 second delivery timeframe with 99% probability and 100 millisecond accuracy for the time stamp is needed to ensure timely delivery of call-identifying information.<sup>180</sup>

95. *Discussion.* We will adopt a timing information requirement as an assistance capability requirement of section 103 of CALEA.<sup>181</sup> First, we find that time stamping is call-identifying information as defined in section 102(2) of CALEA.<sup>182</sup> This information is needed to distinguish and properly associate the call identifying information with the content of several calls occurring at approximately the same time. In other words, time stamp information is needed to identify "the origin, direction, destination, or termination" of any given call and, thus, fits within the statutory definition of section 102(2). Second, we find that delivery of call-identifying information, including time stamp information, to the LEA must, pursuant to section 103(a)(2), be provided in such a timely manner to allow that information "to be associated with the communication to which it pertains."<sup>183</sup> Third, we find that the anticipated costs to carriers of adding this capability are not so exorbitant as to require automatic exclusion of the capability. In percentage terms, based on the manufacturers' aggregate revenue estimates, these costs would be 2% of the core interim standard and 5% of the total punch list.<sup>184</sup> Therefore, we will include timing parameters for delivery of call-identifying information as a technical requirement necessary to meet the assistance capability requirements of section 103(a).

96. Specifically, because we find it to be a reasonable compromise between the DoJ/FBI and TIA proposals, we will adopt the DoJ/FBI proposal that the event be defined as the time the call-identifying information is received at the IAP and TIA's proposal that this information, including a time stamp, be transmitted to the LEA's Collection Function within eight seconds 95% of the time, and that the time stamp be accurate within 200 milliseconds. We find that TIA's proposal to define the event as the time the call-identifying message is detected by the Delivery Function to be insufficient because in some circumstances this message might not be detected by the Delivery Function until well after it was received at the IAP. However, we find the DoJ/FBI proposal for delivery of the message from the IAP to the LEA's Collection function within 3 seconds 99% of the time with 100 millisecond accuracy to be overly stringent and possibly excessively costly to carriers given the various network designs used by carriers in different services applying this requirement. Accordingly, we will require that delivery of a call-identifying message be transmitted to the LEA's Collection Function within eight seconds of its

<sup>178</sup> DoJ/FBI Comments, at 57.

<sup>179</sup> DoJ/FBI Reply Comments, at 52-54.

<sup>180</sup> NYPD Comments, at 10.

<sup>181</sup> 47 U.S.C. § 1006(b).

<sup>182</sup> 47 U.S.C. § 1001(2).

<sup>183</sup> 47 U.S.C. § 1002(a)(2).

<sup>184</sup> See Appendix B, *infra*.

**Federal Communications Commission****FCC 99-230**

receipt by the IAP 95% of the time, and with an accuracy within 200 milliseconds.

**6. Surveillance status**

97. *Background.* This capability would require the telecommunications carrier to send information to the LEA to verify that a wiretap has been established and is still functioning correctly. This information could include the date, time, and location of the wiretap; identification of the subscriber whose facilities are under surveillance; and identification of all voice channels that are connected to the subscriber. This information would be transmitted to the LEA when the wiretap is activated, updated or deactivated, as well as periodically.

98. The *Further NPRM* tentatively concluded that surveillance status messages do not fall within any provisions of section 103 and therefore should not be required for CALEA compliance. The *Further NPRM* tentatively concluded that such messages could be useful to LEAs, but are not required by the plain language of CALEA.<sup>185</sup> The five manufacturers' aggregate revenue estimate for this capability is \$37 million.<sup>186</sup>

99. *Comments.* Industry commenters agree that this capability is not required by CALEA.<sup>187</sup> TIA states that there is no statutory basis for this requirement, and that it would be extremely difficult and costly to implement, particularly for wireless services. TIA contends that a wireless surveillance status requirement would require significant modifications to system architecture to verify electronically that every relevant mobile switch and every other piece of network equipment containing intercept-related data is operational and properly configured.<sup>188</sup>

100. DoJ/FBI state that section 103 obligates carriers to take affirmative steps to ensure surveillance integrity, and that the interim standard excuses carriers from taking any such steps. DoJ/FBI contend that a carrier that does not take any affirmative steps to monitor the integrity of authorized electronic surveillance is not "ensuring" that its equipment, facilities, and services are capable of delivering "all communications" and all reasonably available call-identifying information that law enforcement is authorized to intercept while protecting the privacy and security of other communications and call-identifying information.<sup>189</sup> DoJ/FBI further argue that TIA's argument that implementing these messages would require fundamental design of wireless networks assumes that the reporting of surveillance status messages would require a central implementation. According to DoJ/FBI, however, a wireless carrier would be free to transmit surveillance status messages directly from each network element involved in the surveillance, just as each switch will separately transmit call-identifying information and call content to law

<sup>185</sup> *Further NPRM*, at ¶¶ 109-110, 114-115, and 121-122.

<sup>186</sup> *See Public Notice*, at 4.

<sup>187</sup> AT&T Comments, at 10; Ameritech Comments, at 10; AirTouch Comments, at ii; Bell Atlantic Comments, at 5; CTIA Comments, at 33; Nextel Comments, at 15; PCIA Comments, at 18; SBC Comments, at 16; TIA Comments, at 37; US West Comments, at 21.

<sup>188</sup> TIA Comments, at 38.

<sup>189</sup> DoJ/FBI Comments, at 57-60.

<sup>190</sup> DoJ/FBI Reply Comments, at 55.



**Federal Communications Commission****FCC 99-230**

enforcement.<sup>190</sup> The New Jersey State Police (NJSP) and NYPD agree with DoJ/FBI that a surveillance status message is necessary.<sup>191</sup>

101. *Discussion.* CALEA requires carriers to ensure that authorized wiretaps can be performed in an expeditious manner,<sup>192</sup> and we believe that a surveillance status message could assist carriers and LEAs in determining the status of such wiretaps. We conclude, however, that a surveillance status message does not fall within any of the provisions of section 103. We do not believe that it is call-identifying information as defined by CALEA, since the information such a feature would provide would not identify "the origin, direction, destination, or termination of each communication."<sup>193</sup> Nor does a surveillance status message appear to be required under section 103(a)(1), since it is not a wire or electronic communications carried on a carrier's system. Nor are we persuaded by the FBI's interpretation that a surveillance status message is required by CALEA's direction that a carrier "shall ensure" that its system is capable of meeting the section 103(a) requirements. Rather, we note that the Act expressly states: "a telecommunications carrier shall ensure that its equipment, facilities, or services . . . are capable of" intercepting communications and allowing LEA access to call-identifying information.<sup>194</sup> We interpret the plain language of the statute to mandate compliance with the capability requirements of section 103(a), but not to require that such capability be proven or verified on a continual basis. Ensuring that a wiretap is operational can be done in either a technical or non-technical manner, and section 103(a) does not include "ensurance" itself as a capability. Thus, we conclude that the surveillance status punch list item is not an assistance capability requirement under section 103.<sup>195</sup> However, we are confident that carriers and LEAs will work together to ensure that a wiretap is functioning correctly. We also note that there is nothing that would prevent carriers from providing this capability either on a voluntary basis, or with compensation from LEAs.<sup>196</sup>

## **7. Continuity check tone**

102. *Background.* This technical requirement would require that, in cases where a LEA has obtained authority to intercept wire or electronic communications, a C-tone or dial tone be placed on the call content channel received by the LEA from the telecommunications carrier until a user of the facilities under surveillance initiates or receives a call.<sup>197</sup> At that point, the tone

<sup>190</sup> DoJ/FBI Reply Comments, at 55.

<sup>191</sup> NJSP, at 1; NYPD, at 11.

<sup>192</sup> Section 103(a) of CALEA, 47 U.S.C. § 1002(a).

<sup>193</sup> 47 U.S.C. § 1001(2).

<sup>194</sup> *Id.*

<sup>195</sup> 47 U.S.C. § 1006(b)(1).

<sup>196</sup> In this regard, we note that Sprint PCS contends that it conducts tests with LEAs to confirm that a wiretap has been activated and conducts additional manual tests upon request from a LEA. Additionally, Sprint PCS contends that LEAs can verify the functioning of call content channels by reviewing call detail messages. *See Sprint PCS Ex Parte* filing of June 25, 1999, at 16.

<sup>197</sup> This feature differs from a surveillance status message because it permits the LEA to know whether the facilities under surveillance have an active call. A surveillance status message permits the LEA to know that the wiretap is operational, whether or not there is an active call.

**Federal Communications Commission****FCC 99-230**

would be turned off, indicating to the LEA that the target facilities were in use. This capability would permit correlation between the time a call is initiated and the time the connection is established. The C-tone would also verify that the connection between the carrier's switch and the LEA is in working order.

103. The *Further NPRM* tentatively concluded that continuity check tones do not fall within any provisions of section 103 and therefore should not be required for CALEA compliance. The *Further NPRM* tentatively concluded that such tones could be useful to LEAs, but are not required by the plain language of CALEA.<sup>198</sup> The five manufacturers' aggregate revenue estimate for this capability is \$3 million.<sup>199</sup>

104. *Comments.* Industry commenters agree that this capability is not required by CALEA.<sup>200</sup> AirTouch states that a carrier's diligent compliance with the industry standard, coupled with its observation of routine maintenance and operational standards, will adequately ensure the integrity of wiretap surveillance facilities.<sup>201</sup> Bell Atlantic contends that this capability, as well as the surveillance status and feature status capabilities, would give LEAs information they have not previously had and, accordingly, these capabilities should be rejected.<sup>202</sup> PCIA argues that the delivery of an automated continuity check would require carriers to install C-tone generators at the switch.<sup>203</sup>

105. DoJ/FBI reiterate the arguments they make with respect to surveillance status messages, contending that section 103 obligates carriers to take affirmative steps to ensure surveillance integrity, and that the interim standard excuses carriers from taking any such steps.<sup>204</sup> DoJ/FBI also contend that PCIA's assertion that delivery of an automated continuity check tone would require carriers to install C-tone generators at the switch level is incorrect, because a C-tone is not the only form of continuity check that would be acceptable to LEAs.<sup>205</sup>

106. *Discussion.* As with the case of surveillance status messages, we believe that continuity tone could assist the LEA in determining the status of a wiretap, but that this technical requirement is not necessary to meet the mandates of section 103(a). Similar to our reasoning regarding surveillance status messages, we do not believe that a continuity tone falls within CALEA's definition of call-identifying information, since the information such a feature would provide would not identify "the origin, direction, destination, or termination of each

<sup>198</sup> *Further NPRM*, at ¶¶ 114-115.

<sup>199</sup> *See Public Notice*, at 4.

<sup>200</sup> AT&T Comments, at 10; Ameritech Comments, at 10; AirTouch Comments, at ii; Bell Atlantic Comments, at 5; Nextel Comments, at 15; PCIA Comments, at 20; SBC Comments, at 17; TIA Comments, at 38; US West Comments, at 21.

<sup>201</sup> AirTouch Comments, at ii.

<sup>202</sup> Bell Atlantic Comments, at 5.

<sup>203</sup> PCIA Comments, at 20.

<sup>204</sup> DoJ/FBI Comments, at 57.

<sup>205</sup> DoJ/FBI Reply Comments, at 56.

<sup>206</sup> 47 U.S.C. § 1001(2).

**Federal Communications Commission****FCC 99-230**

communication."<sup>206</sup> Nor does it appear to be required under section 103(a)(1), since it is not a wire or electronic communications carried on a carrier's system. Furthermore, as explained above, the plain language of the statute mandates compliance with the capability requirements of section 103(a), but does not require that such capability be proven or verified on a continual basis. Again, ensuring that a wiretap is operational can be done in either a technical or non-technical manner, and section 103(a) does not include "insurance" itself as a capability. Thus, we conclude that the continuity tone punch list item is not an assistance capability requirement under section 103.<sup>207</sup> As noted in paragraph 101, *supra*, we are confident that carriers and LEAs will work together to ensure that a wiretap is functioning correctly, and also note that there is nothing that would prevent carriers from providing this capability either on a voluntary basis, or with compensation from LEAs.<sup>208</sup>

**8. Feature status**

107. *Background.* This technical requirement would require a carrier to notify the LEA when specific subscription-based calling services are added to or deleted from the facilities under surveillance, including when the subject modifies capabilities remotely through another phone or through an operator. Examples of such services are call waiting, call hold, three-way calling, conference calling, and call return.<sup>209</sup> Also, the carrier would be required to notify the LEA if the telephone number of the facilities under surveillance was changed or service was disconnected.<sup>210</sup>

108. The *Further NPRM* tentatively concluded that feature status messages do not fall within any provisions of section 103 and therefore should not be required for CALEA compliance. The *Further NPRM* tentatively concluded that such messages could be useful to LEAs, but are not required by the plain language of CALEA.<sup>211</sup> The five manufacturers' aggregate revenue estimate for this capability is \$40 million.<sup>212</sup>

109. *Comments.* Industry commenters agree that this capability is not required by

<sup>206</sup> 47 U.S.C. § 1001(2).

<sup>207</sup> 47 U.S.C. § 1006(b)(1).

<sup>208</sup> We note that Sprint PCS contends that it currently provides continuity tones to LEAs. See Sprint PCS *Ex Parte* filing of June 25, 1999, at 17.

<sup>209</sup> We note that some services, such as call return, are available on either a subscription or per-call basis. DoJ/FBI assert, however, that the availability of per-call features is irrelevant to their petition and that they do not seek to require carriers to notify a LEA of a subscriber's use of these features. They explain that carriers should simply alert a LEA to the assignment or removal of features that can affect call content or call-identifying information from a line under surveillance. They conclude that, "[a]s a practical matter, law enforcement will know in advance what per-call features a particular carrier makes available to its subscribers, and will have collected enough information to predict the . . . likely use of such features, before initiating an intercept, and will be able to order the appropriate number of call content and call data channels based on this information." See DoJ/FBI Reply Comments, at 74.

<sup>210</sup> DoJ/FBI Joint Petition for Expedited Rulemaking, March 27, 1998, at Appendix 1, 14-15.

<sup>211</sup> *Further NPRM*, at ¶¶ 121-122.

<sup>212</sup> See *Public Notice*, at 4.

<sup>213</sup> AT&T Comments, at 17; Ameritech Comments, at 10; AirTouch Comments, at ii; Bell Atlantic Comments, at

**Federal Communications Commission****FCC 99-230**

CALEA.<sup>213</sup> SBC contends that it is unreasonable to mandate measures that would require the wholesale redesign of a carrier's network simply to comply with a LEA's preferences regarding surveillance. SBC also contends that while it is necessary for changes in the telephone number of the facilities to be conveyed to a LEA, that need is already being met through existing administrative procedures.<sup>214</sup> US West states that it has provided LEAs with expeditious access to feature status information in the past and will do so in the future. US West also contends that LEAs never before had the access that DoJ/FBI now is demanding to carriers' databases, and that DoJ/FBI's reasons for seeking this access are unconvincing.<sup>215</sup> PCIA maintains that provision of a feature status message by a carrier is not feasible because a carrier may not know which features a subscriber has implemented at any particular time.<sup>216</sup>

110. DoJ/FBI reiterate the arguments they make with respect to surveillance status messages and continuity check tones, contending that section 103 obligates carriers to take affirmative steps to ensure surveillance integrity, and that the interim standard excuses carriers from taking any such steps.<sup>217</sup> DoJ/FBI also contend that PCIA's assertion that carriers may not be able to provide a feature status message because they may not know which features a subscriber has implemented at any particular time is inconsistent with the way carriers' networks operate.<sup>218</sup> NYPD agrees with DoJ/FBI that a feature status capability is needed by LEAs, and states that this capability is particularly necessary with respect to call forwarding and when a subject disconnects his service or changes his telephone number.<sup>219</sup>

111. *Discussion.* Similar to surveillance status messages and continuity tones, we believe that feature status messages could be useful to a LEA, but that provision of these messages from a carrier to a LEA is not required to meet the mandates of section 103(a). First, we believe it is clear that feature status messages do not constitute call-identifying information since the information such a feature would provide would not identify "the origin, direction, destination, or termination of each communication."<sup>220</sup> Further, feature status messages do not appear to be required under section 103(a)(1) because they are not wire or electronic communications carried on a carrier's system. Rather, they would simply aid a LEA in determining how much capacity is required to implement and maintain effective electronic surveillance of a target facility, information that could be useful in assuring that an interception is fully effectuated and the intercepted material delivered as authorized. However, as noted by AT&T, the information that would be provided by feature status messages can be provided by other means, such as in response to a subpoena to the carrier. We reiterate that the plain language of the Act mandates compliance with the assistance capability requirements of section

5; Nextel Comments, at 15; PCIA Comments, at 21; SBC Comments, at 17; TIA Comments, at 39; US West Comments, at 23.

<sup>214</sup> SBC Comments, at 17.

<sup>215</sup> US West Comments, at 23-24.

<sup>216</sup> PCIA Comments, at 21.

<sup>217</sup> DoJ/FBI Comments, at 57.

<sup>218</sup> DoJ/FBI Reply Comments, at 56-57.

<sup>219</sup> NYPD Comments, at 12.

<sup>220</sup> 47 U.S.C. § 1001(2).

**Federal Communications Commission****FCC 99-230**

103(a), but does not require carriers to implement any specific quality control capabilities to assist law enforcement. The information sought by DoJ/FBI in a feature status message can be provided in either a technical or non-technical manner, and section 103(a) does not include "ensurance" itself as a capability. Thus, we conclude that the feature status punch list item is not an assistance capability requirement under section 103.<sup>221</sup> Similar to surveillance status messages and continuity check tones, we are confident that carriers and LEAs will work together to ensure that some form of feature status capability is provided, and also note that there is nothing that would prevent carriers from providing this capability either on a voluntary basis, or with compensation from LEAs.<sup>222</sup>

**9. Dialed digit extraction**

112. *Background.* This capability would require the telecommunications carrier to provide to the LEA on the call data channel the identity of any digits dialed by the subject after connecting to another carrier's service (also known as "post-cut-through digits"). One example of such dialing and signaling would occur when the subject dials an 800 number to access a long distance carrier. After connecting to the long distance carrier through the 800 number, the subject then dials the telephone number that represents the ultimate destination of the call.

113. The *Further NPRM* tentatively concluded that the identity of post-cut-through digits representing all telephone numbers needed to route a call, for example, from the subscriber's telephone through its LEC, then through IXC and other networks, and ultimately to the intended party is call-identifying information. The *Further NPRM* sought comment on whether such call-identifying information is reasonably available to the carrier originating the call.<sup>223</sup> The five manufacturers' aggregate revenue estimate for this capability is \$121 million.<sup>224</sup>

114. *Comments.* EFF, EPIC, and ACLU argue that CALEA does not permit a LEA to obtain post-cut-through digits via a pen register order directed at the initial telecommunications carrier because those digits are carried on the initial carrier's call content channel, and therefore must be treated the same as other call content and not revealed to a LEA through a pen register order served on that carrier. EFF, EPIC, and ACLU maintain that information contained in the call content portion of a transmission does not qualify as call-identifying because it does not identify the "origin, direction, destination or termination" of the initial carrier's communications.<sup>225</sup>

<sup>221</sup> 47 U.S.C. § 1006(b)(1).

<sup>222</sup> In this regard, we note that Sprint PCS contends that it currently provides to LEAs handset-initiated feature codes, and can provide a record if the subject changes features using a Sprint PCS business office. Additionally, Sprint PCS contends that one of its vendors is hopeful that in the future it will be able to provide software "triggers" so that all changes in feature status can be delivered automatically to LEAs. See Sprint PCS *Ex Parte* filing of June 25, 1999, at 13.

<sup>223</sup> *Further NPRM*, at ¶ 128.

<sup>224</sup> See *Public Notice*, at 4.

<sup>225</sup> EFF, EPIC, and ACLU Comments, at 26-28.

**Federal Communications Commission****FCC 99-230**

115. PCIA and TIA each assert that post-cut-through digits are not call-identifying information and are not reasonably available to the originating carrier.<sup>226</sup> TIA states that a carrier has no reason to detect dialed digits that are not used for call routing, and the manufacturers' switch designs do not contemplate their detection since they are meaningless to the switch after the call is routed. Further, TIA contends, modifying these fundamental switch designs would be extraordinarily difficult and expensive.<sup>227</sup>

116. PCIA, Ameritech, and BellSouth propose alternative ways for a LEA to obtain post-cut-through dialed digits. PCIA states that, under the interim standard, a LEA would be provided with these digits if it either serves the LEC with a Title III warrant and arranges for the provisioning of a CCC from that carrier, or serves the interexchange carrier (IXC) with a pen register warrant and arranges for the provisioning of a CDC from that carrier. PCIA states that given the availability of these alternatives, we should not expand the interim standard in a manner that conflicts with section 103.<sup>228</sup> Ameritech and BellSouth propose another alternative method, which they claim would be less expensive than our proposal that would require carriers to redesign touchtone detector architectures and add detector hardware to their switches. Ameritech and BellSouth propose that a LEA obtain a pen register warrant, order a CCC from the originating carrier, and install equipment at the LEA's collection facility to extract dual tone multi frequency (DTMF) digits. According to Ameritech and BellSouth, such a practice would allow carriers to avoid the expense of both developing a digit extraction feature and keeping touchtone registers tied to a monitored call for the duration of that call.<sup>229</sup>

117. AirTouch argues that a dialed digit extraction capability would be particularly expensive for wireless carriers to implement. It cites a vendor estimate that each dialed digit extraction would cost about \$1000; thus, a carrier whose switching system has the capability of conducting 200 simultaneous wiretaps would have to pay roughly \$200,000 -- an amount that AirTouch maintains is comparable to the per-switch cost of the software upgrade for the entire punch list.<sup>230</sup>

118. DoJ/FBI argue that the statutory definition of call-identifying information encompasses all dialing and signaling information that identifies the destination of each communication generated or received by a subscriber regardless of whether the particular carrier from whom the information is being sought uses the information for call routing purposes; accordingly, DoJ/FBI maintain that it is irrelevant whether an originating carrier uses post-cut-through digits to route calls through the network. DoJ/FBI also contend that the argument of EFF, EPIC, and ACLU regarding a LEA's lack of authority to obtain call content channel information with only a pen register order is incorrect. DoJ/FBI state that the pen register statute authorizes LEAs to acquire all call-identifying numbers dialed or otherwise transmitted by the subject using the monitored facilities. Ideally, DoJ/FBI state, carriers would have the capability to

<sup>226</sup> PCIA Comments, at 33; TIA Comments, at 23.

<sup>227</sup> TIA Comments, at 23.

<sup>228</sup> PCIA Comments, at 33-34.

<sup>229</sup> Ameritech Comments, at 12-13; BellSouth Comments, at 18.

<sup>230</sup> AirTouch Comments, at ii and 26-27.

**Federal Communications Commission****FCC 99-230**

automatically distinguish between post-cut-through digits used for call completion and those used for other purposes, but in the absence of such a capability, the carrier must deliver all post-cut-through digits to the LEA. Additionally, DoJ/FBI argue that post-cut-through digits cannot be obtained expeditiously from other carriers, and often will not be available at all; and that for a LEA to provision a CCC to extract post-cut-through tones at the LEA's collection facility would cost LEAs as much as \$20 million per year. Moreover, DoJ/FBI argue that delivering the contents of a subject's post-cut-through communications to a LEA pursuant to a pen register order could pose unnecessary risks to privacy interests because innocent conversations might be heard by LEAs in the course of such surveillance.<sup>231</sup>

119. *Discussion.* We find that some digits dialed by a subject after connecting to a carrier other than the originating carrier are call-identifying information. While a subject may dial digits after the initial call set-up that are not call-identifying -- e.g., a bank account number to access his/her bank statement -- some digits dialed after connecting to an IXC identify the "origin, direction, destination or termination" of the communications. We also find that this call-identifying information is "reasonably available" to the originating carrier because the digits dialed by a subject after connecting to another carrier are present at an IAP and can be made available by the originating carrier without the carrier being unduly burdened with network modifications.<sup>232</sup>

120. Additionally, we note that there appears to be a consensus that LEAs should be permitted to obtain in some fashion digits dialed by the subject after connecting to another carrier's service. PCIA, Ameritech, and BellSouth have proposed alternative methods of extracting such digits, and these methods would minimize the expense to originating carriers. However, each alternative method also raises significant concerns. The first method proposed by PCIA -- a LEA serving the originating carrier with a Title III warrant and arranging for the provisioning of a CCC from that carrier -- is not feasible unless the LEA can obtain the legal authorization necessary for a Title III warrant. The burden of proof necessary for obtaining a Title III authorization is more stringent than that required for a pen register warrant, and a pen register is all that is required to obtain call-identifying information. We do not believe that CALEA contemplates changing the standard of proof in obtaining a warrant in order to avoid implementing a particular CALEA feature.

121. The second method proposed by PCIA -- a LEA serving an IXC with a pen register warrant and arranging for the provisioning of a CDC from that carrier -- would shift the cost burden from the originating carrier to the LEA, which would not necessarily be less expensive to the public. Further, this method could be time-consuming, particularly if a caller used multiple IXCs to complete a single call, and thus would seem to defeat one of the purposes of CALEA to preserve the ability of law enforcement officials to conduct electronic surveillance effectively and efficiently in the face of rapid advances in telecommunications technology.<sup>233</sup> Finally, this method would shift to the LEA responsibility for ensuring that the interception is

<sup>231</sup> DoJ/FBI Reply Comments, at 57-64.

<sup>232</sup> See ¶¶ 28-31, *supra*.

<sup>233</sup> See *again* 140 Cong. Rec. H-10779 (daily ed. October 7, 1994) (statement of Rep. Hyde).

**Federal Communications Commission****FCC 99-230**

conducted in a way that protects the privacy and security of communications not authorized for interception, and thus would effectively relieve carriers of their obligations under section 103(a)(4) of CALEA.

122. The method proposed by Ameritech and BellSouth -- a LEA obtaining a pen register warrant, ordering a CCC from the originating carrier, and installing equipment at the LEA's collection facility to extract DTMF digits -- would again shift the cost burden from the originating carrier to the LEA and thus not necessarily effect a cost savings for the public. Additionally, this method would jeopardize privacy because the LEA would be using a CCC, and therefore would obtain call content, as well as call-identifying, information under a pen register warrant. Thus, to an even greater extent than the second method proposed by PCIA, this method would shift to the LEA responsibility for ensuring that the interception is conducted in a way that protects the privacy and security of communications not authorized for interception, and thus would relieve carriers of their obligations under section 103(a)(4).

123. Accordingly, while we are concerned about the costs of a dialed digit extraction capability to originating carriers, as well as the privacy implications of permitting LEAs to access non-call-identifying digits (such as bank account numbers) with only a pen register warrant, we find that requiring this capability is appropriate. We find that adopting our proposal rather than one of the three alternatives suggested in the comments will best balance the directives of section 107(b) of CALEA that the capability requirements of section 103 be met by cost-effective methods and that the privacy and security of communications not authorized to be intercepted be protected. As with packet switching, the LEA will be required to minimize its search of the CDC for call-identifying information. With respect to costs, we note that the manufacturers' revenue data indicate that the cost of a dialed digit extraction capability would exceed the cost of any other punch list capability. In percentage terms, based on the manufacturers' aggregate revenue estimates, this cost would be 13% of the core interim standard and 29% of the total punch list.<sup>234</sup> Based on the manufacturers' wireless revenue estimates, this cost would be 17% of the core interim standard and 26% of the total punch list.<sup>235</sup> However, in balancing these costs against other statutory requirements, we do not find them to be so exorbitant as to require automatic exclusion of the capability. Further, it is unclear whether any of the alternative methods proposed would be significantly less expensive; rather, they would simply shift the cost burden from carriers to LEAs. Thus, we conclude that the provision of dialed digit extraction information by the originating carrier is a technical requirement that meets the assistance capability requirements of section 103.<sup>236</sup>

**D. Disposition of J-STD-025 Modifications**

124. *Background.* In the *Further NPRM*, we stated that we expected that TIA Subcommittee TR45.2 would modify the interim standard to be consistent with any additional

<sup>234</sup> See Appendix B, *infra*.

<sup>235</sup> *Id.*

<sup>236</sup> 47 U.S.C. § 1006(b).



**Federal Communications Commission****FCC 99-230**

technical requirements we adopt, and that we anticipated that the Subcommittee would complete those modifications within 180 days of release of this *Third R&O*. We noted that this was an ambitious schedule, but we stated that we believed it to be achievable because the Subcommittee has been examining CALEA technical standards issues for several years and the modifications to J-STD-025 are likely to be relatively limited. Finally, we stated that we would set a separate compliance deadline for those additional technical requirements.

125. *Comments.* TIA endorses our conclusion that its Subcommittee TR45.2 should revise the interim standard, consistent with the requirements that we adopt. TIA states that the Subcommittee has the expertise and resources to issue a revised technical standard in the most efficient and expeditious manner, and that it will make every effort to expedite the completion of a stable, ballot-ready revision of the final standard within 180 days.<sup>237</sup> TIA contends, however, that 180 days for a balloted and approved standard is not possible.<sup>238</sup> TIA also requests clarification as to whether the revisions to the interim standard should be balloted as a TIA/American National Standards Institute (ANSI) standard, or as another interim standard. TIA states that the former procedure would extend the balloting and approval process. Finally, TIA states that representatives from our Office of Engineering and Technology should participate in the standard's formulating group, and that members of the privacy and law enforcement communities are strongly encouraged to participate.<sup>239</sup>

126. Several parties submitted comments consistent with those submitted by TIA. US West states that it supports the proposed remand to the TIA Subcommittee, but that the expectation that the Subcommittee will be able to complete its work within 180 days probably is overly optimistic. US West contends that developing a consensus on the necessary technical standards and having them subsequently approved by ballot, as required under ANSI procedures, could take more than one year.<sup>240</sup> SBC states that it agrees with us about remanding the interim standard to the Subcommittee, but contends that whether the activity of the Subcommittee can be completed within 180 days will depend upon the extent of our modifications.<sup>241</sup> AT&T states that it may be feasible to complete technical amendments to the interim standard within 180 days, but that procedures for promulgation as a final industry standard will require additional time.<sup>242</sup> However, DoJ/FBI contend that if the Commission is specific about the changes required to the interim standard, there is no reason why the Subcommittee cannot produce a ballot-ready draft within 90 days and a vote on the final standard within an additional 90 days.<sup>243</sup>

127. TIA argues that implementation of the additional punch list capabilities by manufacturers and carriers should be at least 36 months after the June 30, 2000 deadline for

<sup>237</sup> TIA Comments, at iii.

<sup>238</sup> TIA Reply Comments, at 10.

<sup>239</sup> TIA Comments, at 15-16.

<sup>240</sup> US West Comments, at ii.

<sup>241</sup> SBC Comments, at 18.

<sup>242</sup> AT&T Comments, at 23.

<sup>243</sup> DoJ/FBI Reply Comments, at 74.

<sup>244</sup> TIA Comments, at 17-20. BellSouth supports TIA's suggested implementation deadline.

**Federal Communications Commission****FCC 99-230**

implementing the capability requirements covered by the interim standard.<sup>244</sup> This deadline would provide manufacturers approximately 24 months to design and test new products and provide carriers approximately 12 months to acquire and test new products in their networks, according to TIA. DoJ/FBI suggest that manufacturers and carriers be required to implement the punch list capabilities within 18 months of adoption of a revised industry standard.<sup>245</sup> DoJ/FBI argue that the industry already has begun work on revisions to the standard to include the punch list capabilities,<sup>246</sup> and points to the long delays that already have occurred in implementing CALEA, urging the Commission not to delay further industry compliance.

128. *Discussion.* As proposed, we are remanding the interim standard to Subcommittee TR45.2 of the TIA to make the necessary technical modifications in accord with our findings herein. We believe that those technical requirements can be most efficiently implemented by permitting the Subcommittee to make the modifications. LEAs, carriers, and manufacturers are voting members of the Subcommittee, and the Subcommittee has the experience and resources in place to resolve these issues quickly. Regarding the specific timing requirements, we conclude that seven months is a reasonable period of time for TIA to complete the necessary changes to J-STD-025. We note that only certain punch list items will need to be included in the revised standard, which will reduce the amount of work to be completed, and that the industry already has begun work in this regard. Accordingly, we will require TIA to complete the necessary revisions to the interim standard by March 30, 2000. We find it sufficient for TIA to adopt a revised TIA interim standard and see no need or benefit to consider the revised standard as an ANSI standard. Commission staff will closely monitor the development of the revised standard, but will not participate directly so that we can maintain our impartiality in the event of disputes relative to the revised standard.

129. We will require wireline, cellular, and broadband PCS carriers to make the six punch list capabilities available to LEAs by September 30, 2001. We believe that manufacturers, if they have not done so already, will begin working to include the additional capabilities in their products as soon as practicable after adoption of this *Third R&O*, rather than delay such work until after the June 30, 2000 deadline, as TIA suggests. Relative to implementation of the core interim standard, the September 30, 2001 deadline will provide carriers an additional 15 months to implement these capabilities. We find that this deadline provides sufficient time for the development process to be completed and for carriers to implement these capabilities.

**E. Other Technologies and Systems**

130. *Background.* In the *Further NPRM*, we noted that the interim standard applies

BellSouth Comments, at 15.

<sup>245</sup> DoJ/FBI Comments, at 29-30. DoJ/FBI support a 180 day period for revising the industry standard; thus, implementation should occur approximately within two years of a decision in this proceeding.

<sup>246</sup> DoJ/FBI notes the industry began work on an Enhanced Surveillance Services standards document in 1998. DoJ/FBI Comments, at 32.

**Federal Communications Commission****FCC 99-230**

only to wireline, cellular, and broadband PCS carriers. CALEA assistance capability requirements for other telecommunications service providers, including paging, specialized mobile radio (SMR), and satellite service providers, are not covered by that standard. Industry associations or standard-setting organizations that represent such service providers that fit within the definition of telecommunications carrier under CALEA may establish voluntary standards to achieve compliance with section 103 by the June 30, 2000 deadline, and take advantage of the safe harbor provision of section 107(a). The absence of an industry standard, however, does not relieve such carriers from the obligations imposed by section 103.<sup>247</sup> In the absence of a publicly available standard, a carrier will have to work with its vendors to develop an individual CALEA solution, and a carrier is free to choose a solution that is specifically tailored to its particular system and technology.

131. *Comments.* Motorola states that it has been active with respect to technical work involving paging, satellite, SMR, and Enhanced Specialized Mobile Radio (ESMR) systems. It contends that we should defer to and encourage these ongoing efforts by other sectors of the telecommunications industry to comply with CALEA's obligations. Motorola also recommends that we clarify that this *Third R&O* is not a checklist against which other standards will be judged in the future because requirements that may be reasonable in the wireline, cellular, or PCS context simply may not apply to other technologies. Finally, Motorola states that we should recognize that despite industry's best efforts, compliance for these other technologies may not be possible by June 30, 2000. Motorola states that we may want to grant a blanket extension for these technologies and postpone their capability compliance until their eventual capacity deadline under the FBI's final notice of capacity.<sup>248</sup>

132. American Mobile Satellite Corporation (AMSC) states that, in the absence of petitions to us, we should allow operators of systems that use other technologies to establish, in consultation with LEAs, the capability requirements that will apply to their services. AMSC states that only if we are requested to consider the adequacy of technical rules or standards that are adopted for carriers not covered by the interim standard should we become involved.<sup>249</sup> Similarly, ICO Services Limited (ICO) states that we should not take any action at this time with respect to mobile satellite providers, and should allow those providers to work directly with LEAs to establish standards.<sup>250</sup> AT&T states that, unless a party asks us to intercede in the standards process, we should have no direct role. Rather, we should announce general capability principles under section 103, leaving industry associations or standard setting bodies to implement the requirements based on the particular technology.<sup>251</sup> Southern Communications Services, Inc. (Southern) states that we should establish a CALEA safe harbor standard for SMR carriers, but that our role in the standards setting process should be limited absent a deficiency petition or failure of industry to establish standards. Southern further states that our decisions herein should

<sup>247</sup> 47 U.S.C. § 1006(a)(3)(B).

<sup>248</sup> Motorola Comments, at 5-9.

<sup>249</sup> AMSC Comments, at 3.

<sup>250</sup> ICO Comments, at 3.

<sup>251</sup> AT&T Comments, at 23-24.

**Federal Communications Commission****FCC 99-230**

serve only as a general guide for SMR carriers, and that the definition of reasonably available will differ based on the particular technology employed.<sup>252</sup> Finally, PCIA states that it has developed a safe harbor standard for traditional paging providers, whereby such providers will meet the assistance capability requirements through the provision of cloned pagers. However, PCIA contends that NYPD has requested that paging carriers provide specific call-identifying information that is neither required by section 103 nor by the paging safe harbor standard, and that this request should be rejected.<sup>253</sup>

133. *Discussion.* Under Section 107 of CALEA, we can establish technical requirements or standards only after a Government agency or person petitions us to do so because an industry standard has not been developed or because the petitioner finds that such a standard is deficient. In the absence of a petition, we do not have authority to establish standards and thus do not do so herein for telecommunications carriers deploying other technologies. We note that each of the requirements we adopt herein with respect to wireline, cellular, and broadband PCS carriers is not necessarily appropriate for other technologies. As to the deadline for compliance for other technologies, we decline to extend the date. We made clear in the *Extension Order* that the June 30, 2000 deadline would apply to all telecommunications carriers and should provide sufficient time for the development of CALEA-compliant technology.<sup>254</sup> Accordingly, while we will consider any petitions that may be filed to extend that deadline for specific services, we decline to issue a blanket extension herein. Finally, with respect to PCIA's concerns regarding the safe harbor standard it says that it has developed with respect to paging systems, no party has petitioned us contending that PCIA's paging standard is deficient. Therefore, there is at present no issue for us to resolve regarding that standard.

**F. Other Matters**

134. *Standardized Delivery Interface.* DoJ/FBI contend that there is another capability that should be included in the final industry standard; namely, a standardized delivery interface that would limit the number of potential delivery interfaces LEAs would need to accommodate from the telecommunications industry. DoJ/FBI state that the interim standard does not contain any limitation on the number of protocols that may be used by carriers to deliver call content and call-identifying information. Therefore, according to DoJ/FBI, unless a relatively small number of standardized protocols are employed, each carrier will be free to employ a different interface protocol, and LEAs could be faced with prohibitive practical and financial burdens in equipping themselves to deal with scores of different protocols. DoJ/FBI state that this capability was part of their original punch list<sup>255</sup> and they have not dropped it from consideration, even though we stated in the *Further NPRM* that it had been dropped.<sup>256</sup> DoJ/FBI argue that limiting the number of delivery interfaces will ensure that industry meets the assistance capability requirements of

<sup>252</sup> Southern Reply Comments, at 2-6.

<sup>253</sup> PCIA Comments, at 13-14.

<sup>254</sup> See again *Extension Order*, at ¶ 51.

<sup>255</sup> See DoJ/FBI "Joint Petition for Expedited Rulemaking," filed March 27, 1998, at 57-58.

<sup>256</sup> See *Further NPRM*, at n.30.

**Federal Communications Commission****FCC 99-230**

section 103 by cost-effective methods.<sup>257</sup>

135. PrimeCo disagrees with DoJ/FBI, stating that we should not limit the number of delivery interfaces. PrimeCo states that many new digital standards are currently under consideration, and contends that the DoJ/FBI proposal contravenes legislatively-imposed parameters by discouraging the development of new services and technologies.<sup>258</sup>

136. *Discussion.* As Assistant Attorney General Colgate stated in February 1998, "a single delivery interface is not mandated by CALEA,"<sup>259</sup> and we see nothing in the Act that would require that the number of interfaces be limited. We believe, however, that as digital technology evolves, industry will reach agreement on a relatively limited number of delivery interfaces, which should serve to reduce costs to LEAs. Accordingly, we reject the DoJ/FBI proposal to include a standardized delivery interface capability in the final industry standard.

137. *Employee conduct and recordkeeping requirements.* The *Further NPRM* inadvertently included proposals related to employee conduct and recordkeeping requirements for telecommunications carriers.<sup>260</sup> These proposals were carried over from the original *Notice of Proposed Rule Making* in this proceeding,<sup>261</sup> and are not relevant to the issues we address herein. No comments were filed to the *Further NPRM* that addressed these proposals. Accordingly, we make no findings regarding them in this decision. We note, however, that these proposals were addressed in our recent *Report and Order* in this proceeding.<sup>262</sup>

## **G. Summary of Findings**

138. In this *Order*, we have finalized technical requirements for wireline, cellular, and broadband PCS carriers. Specifically, we are requiring these carriers to implement the capabilities of the interim standard and six DoJ/FBI punch list items: content of subject-initiated conference calls; party hold, join, drop on conference calls; subject-initiated dialing and signaling information; in-band and out-of-band signaling; timing information; and dialed digit extraction. The core capabilities of the interim standard must be implemented by June 30, 2000, and packet-mode communications and the punch list items must be implemented by September 30, 2001.

## **IV. PROCEDURAL INFORMATION**

<sup>257</sup> DoJ/FBI Comments, at 70-73.

<sup>258</sup> PrimeCo Reply Comments, at 8-9.

<sup>259</sup> See letter of February 3, 1998 from Stephen R. Colgate, Assistant Attorney General for Administration, to Mr. Tom Barba, Attorney at Law, Steptoe and Johnson, at 3.

<sup>260</sup> See *Further NPRM*, at ¶¶ 161-163.

<sup>261</sup> See *Notice of Proposed Rule Making*, CC Docket No. 97-213, 13 FCC Rcd 3149, 3192-93 (1998), at ¶¶ 73-75.

<sup>262</sup> See *Report and Order*, CC Docket No. 97-213, FCC 99-11, released March 15, 1999, at ¶¶ 90-95.

## Federal Communications Commission

FCC 99-230

**A. Final Regulatory Flexibility Analysis**

139. As required by the Regulatory Flexibility Act (RFA),<sup>263</sup> an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Further NPRM*.<sup>264</sup> The Commission sought written public comments on the proposals in the *Further NPRM*, including the IRFA. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.<sup>265</sup>

**(A) Need for and Purpose of this Action**

140. This *Third Report and Order* responds to the legislative mandate contained in the Communications Assistance for Law Enforcement Act, Pub. L. No. 103-414, 108 Stat. 4279 (1994) (codified as amended in sections of 18 U.S.C. and 47 U.S.C.). The Commission, in compliance with 47 U.S.C. § 229, promulgates rules in this *Third Report and Order* to ensure the prompt implementation of section 103 of CALEA. In enacting CALEA, Congress sought to balance three key policies with CALEA: "(1) to preserve a narrowly focused capability for law enforcement agencies to carry out properly authorized intercepts; (2) to protect privacy in the face of increasingly powerful and personally revealing technologies; and (3) to avoid impeding the development of new communications services and technologies."

141. The rules adopted in this *Third Report and Order* implement Congress's goal to balance the three key policies enumerated above. The objective of the rules is to implement as quickly and effectively as possible the national telecommunications policy for wireline, cellular, and broadband PCS telecommunications carriers to support the lawful electronic surveillance needs of law enforcement agencies.

**(B) Summary of the Issues Raised by Public Comments Made in Response to the IRFA**

142. *Summary of Initial Regulatory Flexibility Analysis (IRFA)*. In the *Further NPRM*, the Commission performed an IRFA and asked for comments that specifically addressed issues raised in the IRFA. No parties filed comments directly in response to the IRFA. In response to non-IRFA comments to the *Further NPRM*, we have modified several of the Commission's proposals, particularly regarding packet switching, conference call content, in-band and out-of-band signaling, and timing information, as discussed above.

**(C) Description and Estimates of the Number of Entities Affected by This Third Report and Order**

<sup>263</sup> See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601 *et. seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

<sup>264</sup> 13 FCC Rcd 22632 (1998).

<sup>265</sup> See 5 U.S.C. § 604.

## Federal Communications Commission

## FCC 99-230

143. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the action taken.<sup>266</sup> The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."<sup>267</sup> In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.<sup>268</sup> A small business concern is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).<sup>269</sup> A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."<sup>270</sup> Nationwide, as of 1992, there were approximately 275,801 small organizations.<sup>271</sup> And finally, "small governmental jurisdiction" generally means "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than 50,000."<sup>272</sup> As of 1992, there were approximately 85,006 such jurisdictions in the United States.<sup>273</sup> This number includes 38,978 counties, cities, and towns; of these, 37,566, or 96 percent, have populations of fewer than 50,000.<sup>274</sup> The United States Bureau of the Census (Census Bureau) estimates that this ratio is approximately accurate for all governmental entities. Thus, of the 85,006 governmental entities, we estimate that 81,600 (91 percent) are small entities. Below, we further describe and estimate the number of small business concerns that may be affected by the actions taken in this Third Report and Order.

144. As noted, under the Small Business Act, a "small business concern" is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) meets any additional criteria established by the SBA.<sup>275</sup> The SBA has defined a small business for Standard Industrial Classification (SIC) categories 4812 (Radiotelephone Communications) and 4813 (Telephone Communications, Except Radiotelephone) to be small entities when they have no more than 1,500 employees.<sup>276</sup> We first discuss the number of small telecommunications entities falling within these SIC categories, then attempt to refine further those estimates to correspond with the categories of telecommunications companies that are commonly used under

<sup>266</sup> 5 U.S.C. § 603(b)(3).

<sup>267</sup> *Id.* § 601(6).

<sup>268</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." 5 U.S.C. § 601(3).

<sup>269</sup> Small Business Act, 15 U.S.C. § 632.

<sup>270</sup> 5 U.S.C. § 601(4).

<sup>271</sup> 1992 Economic Census, U.S. Bureau of the Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

<sup>272</sup> 5 U.S.C. § 601(5).

<sup>273</sup> U.S. Dept. of Commerce, Bureau of the Census, "1992 Census of Governments."

<sup>274</sup> *Id.*

<sup>275</sup> 15 U.S.C. § 632. *See, e.g., Brown Transport Truckload, Inc. v. Southern Wipers, Inc.*, 176 B.R. 82 (N.D. Ga. 1994).

<sup>276</sup> 13 C.F.R. § 121.201.

## Federal Communications Commission

## FCC 99-230

our rules.

145. *Total Number of Telecommunications Entities Affected.* The Census Bureau reports that, at the end of 1992, there were 3,497 firms engaged in providing telephone services, as defined therein, for at least one year.<sup>277</sup> This number contains a variety of different categories of entities, including local exchange carriers, interexchange carriers, competitive access providers, cellular carriers, mobile service carriers, operator service providers, pay telephone operators, PCS providers, covered SMR providers, and resellers. It seems certain that some of those 3,497 telephone service firms may not qualify as small entities or small incumbent LECs because they are not "independently owned and operated."<sup>278</sup> For example, a PCS provider that is affiliated with an interexchange carrier having more than 1,500 employees would not meet the definition of a small business. It seems reasonable to conclude, therefore, that fewer than 3,497 telephone service firms are small entity telephone service firms or small incumbent LECs that may be affected by the actions taken in this Third Report and Order.

146. The most reliable source of current information regarding the total numbers of common carrier and related providers nationwide, including the numbers of commercial wireless entities, appears to be data the Commission publishes annually in its *Carrier Locator* report, derived from filings made in connection with the Telecommunications Relay Service (TRS).<sup>279</sup> According to data in the most recent report, there are 3,604 interstate carriers.<sup>280</sup> These include, *inter alia*, local exchange carriers, wireline carriers and service providers, interexchange carriers, competitive access providers, operator service providers, pay telephone operators, providers of telephone toll service, providers of telephone exchange service, and resellers.

147. We have included small incumbent local exchange carriers (LECs) in this RFA analysis. As noted above, a "small business" under the RFA is one that, *inter alia*, meets the pertinent small business size standard (*e.g.*, a telephone communications business having 1,500 or fewer employees), and "is not dominant in its field of operation."<sup>281</sup> The SBA's Office of Advocacy contends that, for RFA purposes, small incumbent LECs are not dominant in their field of operation because any such dominance is not "national" in scope.<sup>282</sup> We have therefore

<sup>277</sup> United States Department of Commerce, Bureau of the Census, *1992 Census of Transportation, Communications, and Utilities: Establishment and Firm Size*, at Firm Size 1-123 (1995) ("1992 Census").

<sup>278</sup> 15 U.S.C. § 632(a)(1).

<sup>279</sup> FCC, *Carrier Locator: Interstate Service Providers*, Figure 1 (Jan. 1999) (*Carrier Locator*). See also 47 C.F.R. § 64.601-.608.

<sup>280</sup> *Carrier Locator* at Fig. 1.

<sup>281</sup> 5 U.S.C. § 601(3).

<sup>282</sup> Letter from Jere W. Glover, Chief Counsel for Advocacy, SBA, to William E. Kennard, Chairman, FCC (May 27, 1999). The Small Business Act contains a definition of "small business concern," which the RFA incorporates into its own definition of "small business." See 15 U.S.C. § 632(a) (Small Business Act); 5 U.S.C. § 601(3) (RFA). SBA regulations interpret "small business concern" to include the concept of dominance on a national basis. 13 C.F.R. § 121.102(b). Since 1996, out of an abundance of caution, the Commission has included small incumbent LECs in its regulatory flexibility analyses. *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket, 96-98, First Report and Order, 11 FCC Rcd 15499, 16144-45 (1996).



**Federal Communications Commission****FCC 99-230**

included small incumbent LECs in this RFA analysis, although we emphasize that this RFA action has no effect on FCC analyses and determinations in other, non-RFA contexts.

148. *Wireline Carriers and Service Providers (SIC 4813)*. The Census Bureau reports that there were 2,321 telephone communications companies other than radiotelephone companies in operation for at least one year at the end of 1992.<sup>283</sup> All but 26 of the 2,321 non-radiotelephone companies listed by the Census Bureau were reported to have fewer than 1,000 employees. Thus, even if all 26 of those companies had more than 1,500 employees, there would still be 2,295 non-radiotelephone companies that might qualify as small entities or small incumbent LECs. Although it seems certain that some of these carriers are not independently owned and operated, we are unable at this time to estimate with greater precision the number of wireline carriers and service providers that would qualify as small business concerns under SBA's definition. Consequently, we estimate that there are fewer than 2,295 small entity telephone communications companies other than radiotelephone companies that may be affected by the actions taken in this Third Report and Order.

149. *Local Exchange Carriers, Interexchange Carriers, Competitive Access Providers, and Resellers*. Neither the Commission nor SBA has developed a definition of small LECs, interexchange carriers (IXCs), competitive access providers (CAPs), or resellers. The closest applicable definition for these carrier-types under SBA rules is for telephone communications companies other than radiotelephone (wireless) companies.<sup>284</sup> The most reliable source of information regarding the number of these carriers nationwide of which we are aware appears to be the data that we collect annually in connection with the TRS.<sup>285</sup> According to our most recent data, there are 1,410 LECs, 151 IXCs, 129 CAPs, and 351 resellers.<sup>286</sup> Although it seems certain that some of these carriers are not independently owned and operated, or have more than 1,500 employees, we are unable at this time to estimate with greater precision the number of these carriers that would qualify as small business concerns under SBA's definition. Consequently, we estimate that there are fewer than 1,410 small entity LECs or small incumbent LECs, 151 IXCs, 129 CAPs, and 351 resellers that may be affected by the actions taken in this Third Report and Order.

150. *Wireless Carriers (SIC 4812)*. The Census Bureau reports that there were 1,176 radiotelephone (wireless) companies in operation for at least one year at the end of 1992, of which 1,164 had fewer than 1,000 employees.<sup>287</sup> Even if all of the remaining 12 companies had more than 1,500 employees, there would still be 1,164 radiotelephone companies that might qualify as small entities if they are independently owned and operated. Although it seems certain that some of these carriers are not independently owned and operated, we are unable at this time

<sup>283</sup> 1992 Census, *supra*, at Firm Size 1-123.

<sup>284</sup> 13 C.F.R. § 121.210, SIC Code 4813.

<sup>285</sup> See 47 C.F.R. § 64.601 *et seq.*; *Carrier Locator* at Fig. 1.

<sup>286</sup> *Carrier Locator* at Fig. 1. The total for resellers includes both toll resellers and local resellers. The TRS category for CAPs also includes competitive local exchange carriers (CLECs) (total of 129 for both).

<sup>287</sup> United States Department of Commerce, Bureau of the Census, *1992 Census of Transportation, Communications, and Utilities: Establishment and Firm Size*, at Firm Size 1-123 (1995) ("1992 Census").

**Federal Communications Commission****FCC 99-230**

to estimate with greater precision the number of radiotelephone carriers and service providers that would qualify as small business concerns under SBA's definition. Consequently, we estimate that there are fewer than 1,164 small entity radiotelephone companies that may be affected by the actions taken in this Third Report and Order.

151. *Cellular, PCS, SMR and Other Mobile Service Providers.* In an effort to further refine our calculation of the number of radiotelephone companies that may be affected by the actions taken in this Second Report and Order, we consider the data that we collect annually in connection with the TRS for the subcategories Wireless Telephony (which includes PCS, Cellular, and SMR) and Other Mobile Service Providers. Neither the Commission nor the SBA has developed a definition of small entities specifically applicable to these broad subcategories, so we will utilize the closest applicable definition under SBA rules, which is for radiotelephone communications companies.<sup>288</sup> According to our most recent TRS data, 732 companies reported that they are engaged in the provision of Wireless Telephony services and 23 companies reported that they are engaged in the provision of Other Mobile Services.<sup>289</sup> Although it seems certain that some of these carriers are not independently owned and operated, or have more than 1,500 employees, we are unable at this time to estimate with greater precision the number of Wireless Telephony Providers and Other Mobile Service Providers, except as described below, that would qualify as small business concerns under SBA's definition. Consequently, we estimate that there are fewer than 732 small entity Wireless Telephony Providers and fewer than 23 small entity Other Mobile Service Providers that might be affected by the actions taken in this Second Report and Order.

152. *Broadband PCS Licensees.* The broadband PCS spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission defined "small business" for Blocks C and F as an entity that has average gross revenues of not more than \$40 million in the three previous calendar years.<sup>290</sup> These regulations defining "small business" in the context of broadband PCS auctions have been approved by SBA.<sup>291</sup> No small businesses within the SBA-approved definition bid successfully for licenses in Blocks A and B. There have been 237 winning bidders that qualified as small entities in the four auctions that have been held for licenses in Blocks C, D, E and F, all of which may be affected by the actions taken in this Second Report and Order.

153. *Cellular Licensees.* According to the Bureau of the Census, only twelve radiotelephone firms from a total of 1,178 such firms which operated during 1992 had 1,000 or more employees. Therefore, even if all twelve of these firms were cellular telephone companies, nearly all cellular carriers were small businesses under the SBA's definition. In addition, we note

<sup>288</sup> *Id.* To the extent that the Commission has adopted definitions for small entities in connection with the auction of particular wireless licenses, we discuss those definitions below.

<sup>289</sup> *Carrier Locator* at Fig. 1.

<sup>290</sup> 47 C.F.R. § 24.720(b)(1).

<sup>291</sup> *Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, PP Docket No. 93-253, Fifth Report and Order, 9 FCC Rcd 5532, 5581-84 (1994).

**Federal Communications Commission****FCC 99-230**

that there are 1,758 cellular licenses; however, a cellular licensee may own several licenses. In addition, according to the most recent Carrier Locator data, 732 carriers reported that they were engaged in the provision of either cellular service or PCS services, which are placed together in the data. We do not have data specifying the number of these carriers that are not independently owned and operated or have more than 1,500 employees, and thus are unable at this time to estimate with greater precision the number of cellular service carriers that would qualify as small business concerns under the SBA's definition. Consequently, we estimate that there are fewer than 732 small cellular service carriers that may be affected by the actions taken in this Second Report and Order.

(D) *Description of Projected Reporting, Recordkeeping and Other Compliance Requirements.*

154. No reporting and recordkeeping requirements are imposed on telecommunications carriers, thus burdens on carriers, including small carriers, are not increased as a result of actions taken herein. Telecommunications carriers, including small carriers, will have to upgrade their network facilities to provide to law enforcement the assistance capability requirements adopted herein. Although compliance with the technical requirements will impose costs on carriers, the record was not sufficient to analyze thoroughly the costs to carriers, including small carriers (*see* paragraph 30, *supra*).

(E) *Steps Taken to Minimize Significant Economic Impact on Small Entities and Significant Alternatives Considered.*

155. The need for the regulations adopted herein is mandated by Federal legislation. In the final regulations, we affirm our proposals in the *Further NPRM* to establish regulations for wireline, cellular, and broadband PCS telecommunications carriers. Costs to telecommunications carriers will be mitigated in several ways. For example, the final regulations will require telecommunications carrier's to make available to law enforcement call identifying information when it can be done without unduly burdening the carrier with network modifications, thus allowing cost to be a consideration in determining whether the information is reasonably available to the carrier and can be provided to law enforcement (*see* paragraphs 28-29, *supra*). Thus, compliance with the assistance capability requirements of CALEA will be reasonable for all carriers, including small carriers. Also, under CALEA some carriers will be able to request reimbursement from the Department of Justice for network upgrades to comply with the technical requirements adopted herein, and others may be able to defer network upgrades to their normal business cycle under a plan being developed by the Department of Justice.

*Report to Congress*

156. The Commission will send a copy of this FRFA, along with this *Third Report and Order*, in a report to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. § 801(a)(1)(A). In addition, the Commission will send a copy of this *Third Report and Order*, including the FRFA, to the Chief Counsel for Advocacy of the Small Business

**Federal Communications Commission****FCC 99-230**

Administration. A copy of this *Third Report and Order*, including FRFA, will also be published in the Federal Register. See 5 U.S.C. § 604(b).

**B. Paperwork Reduction Act of 1995 Analysis**

157. This *Third Report and Order* does not contain a modified information collection.

**V. ORDERING CLAUSES**

158. Accordingly, IT IS ORDERED that, pursuant to sections 1, 4, 229, 301, 303, and 332 of the Communications Act of 1934, as amended, and 107(b) of the Communications Assistance for Law Enforcement Act, 47 U.S.C. §§ 151, 154, 229, 301, 303, 332, and 1006(b), this Third Report and Order and the rules specified in Appendix A ARE ADOPTED.

159. IT IS FURTHER ORDERED that the rules set forth in Appendix A WILL BECOME EFFECTIVE 90 days after publication in the Federal Register.

160. IT IS FURTHER ORDERED that the Regulatory Flexibility Analysis, as required by Section 604 of the Regulatory Flexibility Act and as set forth above, IS ADOPTED.

161. IT IS FURTHER ORDERED that the Commission's Office of Public Affairs, Reference Operations Division, SHALL SEND a copy of this *Third Report and Order*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas

Secretary

## Federal Communications Commission

FCC 99-230

## VI. APPENDIX A: FINAL RULES

## AMENDMENTS TO THE CODE OF FEDERAL REGULATIONS

## PART 22- PUBLIC MOBILE SERVICES

A. Part 22 of the Code of Federal Regulations is amended as follows:

1. The authority citation in Part 22 continues to read:

AUTHORITY: 47 U.S.C. 154, 222, 303, 309 and 332.

2. The table of contents for Part 22 is amended to add Subpart J to read as follows:

Subpart J - Required New Capabilities Pursuant to the Communications Assistance for Law Enforcement Act (CALEA)

**§ 22.1100 Purpose.**

Pursuant to the Communications Assistance for Law Enforcement Act (CALEA), Pub. L. No. 103-414, 108 Stat. 4279 (1994) (codified as amended in sections of 18 U.S.C. and 47 U.S.C.), this subpart contains rules that require a cellular telecommunications carrier to implement certain capabilities to ensure law enforcement access to authorized communications or call-identifying information.

**§ 22.1101 Scope.**

The definitions included in this subpart shall be used solely for the purpose of implementing CALEA requirements.

**§ 22.1102 Definitions.**

*Call Identifying Information.* Call identifying information means dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier. Call identifying information is "reasonably available" to a carrier if it is present at an intercept access point and can be made available without the carrier being unduly burdened with network modifications.

*Collection Function.* The location where lawfully authorized intercepted communications and call-identifying information is collected by a law enforcement agency (LEA).

*Content of subject-initiated conference calls.* Capability that permits a LEA to monitor the content of conversations by all parties connected via a conference call when the facilities under

**Federal Communications Commission****FCC 99-230**

surveillance maintain a circuit connection to the call.

*Dialed digit extraction.* Capability that permits a LEA to receive on the call data channel digits dialed by a subject when a call is connected to another carrier's service for processing and routing.

*In-band and out-of-band signaling* . Capability that permits a LEA to be informed when a network message that provides call identifying information (e.g., ringing, busy, call waiting signal, message light) is generated or sent by the IAP switch to a subject using the facilities under surveillance. Excludes signals generated by customer premises equipment when no network signal is generated.

*Intercept Access Point (IAP).* Intercept access point is a point within a carrier's system where some of the communications or call-identifying information of an intercept subject's equipment, facilities, and services are accessed.

*J-STD-025.* The interim standard developed by the Telecommunications Industry Association and the Alliance for Telecommunications Industry Solutions for wireline, cellular, and broadband PCS carriers. This standard defines services and features to support lawfully authorized electronic surveillance, and specifies interfaces necessary to deliver intercepted communications and call-identifying information to a LEA

*LEA.* Law enforcement agency; e.g., the Federal Bureau of Investigation or a local police department.

*Party hold, join, drop on conference calls* . Capability that permits a LEA to identify the parties to a conference call conversation at all times.

*Subject-initiated dialing and signaling information* . Capability that permits a LEA to be informed when a subject using the facilities under surveillance uses services that provide call identifying information, such as call forwarding, call waiting, call hold, and three-way calling. Excludes signals generated by customer premises equipment when no network signal is generated.

*Timing information.* Capability that permits a LEA to associate call-identifying information with the content of a call. A call-identifying message must be sent from the carrier's IAP to the LEA's Collection Function within eight seconds of receipt of that message by the IAP at least 95% of the time, and with the call event time-stamped to an accuracy of at least 200 milliseconds.

**§ 22.1103 Capabilities that must be provided by a cellular telecommunications carrier.**

(a) Except as provided under paragraph (b), as of June 30, 2000 a cellular telecommunications carrier shall provide to a LEA the assistance capability requirements of CALEA, *see* 47 U.S.C. § 1002. A carrier may satisfy these requirements by complying with publicly available technical requirements or standards adopted by an industry association or standard-setting organization, such as J-STD-025.

**Federal Communications Commission****FCC 99-230**

(b) As of September 30, 2001 a cellular telecommunications carrier shall provide to a LEA communications and call-identifying information transported by packet-mode communications and the following capabilities:

- (1) Content of subject-initiated conference calls;
- (2) Party hold, join, drop on conference calls;
- (3) Subject-initiated dialing and signaling information ;
- (4) In-band and out-of-band signaling;
- (5) Timing information;
- (6) Dialed digit extraction.

**PART 24- PERSONAL COMMUNICATIONS SERVICES**

B. Part 24 of the Code of Federal Regulations is amended as follows:

1. The authority citation in Part 24 continues to read:

AUTHORITY: 47 U.S.C. 154, 301, 302, 303, 309 and 332.

2. The table of contents for Part 24 is amended to add Subpart J to read as follows:

Subpart J - Required New Capabilities Pursuant to the Communications Assistance for Law Enforcement Act (CALEA)

**§ 24.900 Purpose.**

Pursuant to the Communications Assistance for Law Enforcement Act (CALEA), Pub. L. No. 103-414, 108 Stat. 4279 (1994) (codified as amended in sections of 18 U.S.C. and 47 U.S.C.), this subpart contains rules that require a broadband PCS telecommunications carrier to implement certain capabilities to ensure law enforcement access to authorized communications or call-identifying information.

**§ 24.901 Scope.**

The definitions included in this subpart shall be used solely for the purpose of implementing CALEA requirements.

**§ 24.902 Definitions.**

*Call Identifying Information.* Call identifying information means dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier. Call identifying information is "reasonably available" to a carrier if it

**Federal Communications Commission****FCC 99-230**

is present at an intercept access point and can be made available without the carrier being unduly burdened with network modifications.

*Collection Function.* The location where lawfully authorized intercepted communications and call-identifying information is collected by a law enforcement agency (LEA).

*Content of subject-initiated conference calls.* Capability that permits a LEA to monitor the content of conversations by all parties connected via a conference call when the facilities under surveillance maintain a circuit connection to the call.

*Dialed digit extraction.* Capability that permits a LEA to receive on the call data channel a digits dialed by a subject after a call is connected to another carrier's service for processing and routing.

*IAP.* Intercept access point is a point within a carrier's system where some of the communications or call-identifying information of an intercept subject's equipment, facilities, and services are accessed.

*In-band and out-of-band signaling* . Capability that permits a LEA to be informed when a network message that provides call identifying information (e.g., ringing, busy, call waiting signal, message light) is generated or sent by the IAP switch to a subject using the facilities under surveillance. Excludes signals generated by customer premises equipment when no network signal is generated.

*J-STD-025.* The interim standard developed by the Telecommunications Industry Association and the Alliance for Telecommunications Industry Solutions for wireline, cellular, and broadband PCS carriers. This standard defines services and features to support lawfully authorized electronic surveillance, and specifies interfaces necessary to deliver intercepted communications and call-identifying information to a LEA

*LEA.* Law enforcement agency; e.g., the Federal Bureau of Investigation or a local police department.

*Party hold, join, drop on conference calls* . Capability that permits a LEA to identify the parties to a conference call conversation at all times.

*Subject-initiated dialing and signaling information* . Capability that permits a LEA to be informed when a subject using the facilities under surveillance uses services that provide call identifying information, such as call forwarding, call waiting, call hold, and three-way calling. Excludes signals generated by customer premises equipment when no network signal is generated.

*Timing information.* Capability that permits a LEA to associate call-identifying information with the content of a call. A call-identifying message must be sent from the carrier's IAP to the LEA's Collection Function within eight seconds of receipt of that message by the IAP at least 95% of the time, and with the call event time-stamped to an accuracy of at least 200 milliseconds.



## Federal Communications Commission

FCC 99-230

**§ 24.903 Capabilities that must be provided by a broadband PCS telecommunications carrier.**

(a) Except as provided under paragraph (b), as of June 30, 2000 a cellular telecommunications carrier shall provide to a LEA the assistance capability requirements of CALEA, *see* 47 U.S.C. § 1002. A carrier may satisfy these requirements by complying with publicly available technical requirements or standards adopted by an industry association or standard-setting organization, such as J-STD-025.

(b) As of September 30, 2001 a cellular telecommunications carrier shall provide to a LEA communications and call-identifying information transported by packet-mode communications and the following capabilities:

- (1) Content of subject-initiated conference calls;
- (2) Party hold, join, drop on conference calls;
- (3) Subject-initiated dialing and signaling information ;
- (4) In-band and out-of-band signaling;
- (5) Timing information;
- (6) Dialed digit extraction.

**PART 64 - MISCELLANEOUS RULES RELATING TO COMMON CARRIERS**

C. Part 64 of the Code of Federal Regulations is amended as follows:

1. The authority citation for Part 64 is amended to read as follows:

AUTHORITY: 47 U.S.C. §§ 151, 154, 201, 202, 205, 218-220, and 332 unless otherwise noted. Interpret or apply §§ 201, 218, 225, 226, 227, 229, 332, 48 Stat. 1070, as amended. 47 U.S.C. §§ 201-204, 208, 225, 226, 227, 229, 332, 501 and 503 unless otherwise noted.

2. The table of contents for Part 64 is amended to add Subpart W to read as follows:

Subpart W - Required New Capabilities Pursuant to the Communications Assistance for Law Enforcement Act (CALEA)

**§ 64.2200 Purpose.**

Pursuant to the Communications Assistance for Law Enforcement Act (CALEA), Pub. L. No. 103-414, 108 Stat. 4279 (1994) (codified as amended in sections of 18 U.S.C. and 47 U.S.C.), this subpart contains rules that require a wireline telecommunications carrier to implement certain capabilities to ensure law enforcement access to authorized communications or call-identifying information.

**Federal Communications Commission****FCC 99-230****§ 64.2201 Scope.**

The definitions included in this subpart shall be used solely for the purpose of implementing CALEA requirements.

**§ 64.2202 Definitions.**

*Call Identifying Information.* Call identifying information means dialing or signaling information that identifies the origin, direction, destination, or termination of each communication generated or received by a subscriber by means of any equipment, facility, or service of a telecommunications carrier. Call identifying information is "reasonably available" to a carrier if it is present at an intercept access point and can be made available without the carrier being unduly burdened with network modifications.

*Collection Function.* The location where lawfully authorized intercepted communications and call-identifying information is collected by a law enforcement agency (LEA).

*Content of subject-initiated conference calls.* Capability that permits a LEA to monitor the content of conversations by all parties connected via a conference call when the facilities under surveillance maintain a circuit connection to the call.

*Dialed digit extraction.* Capability that permits a LEA to receive on the call data channel a digits dialed by a subject after a call is connected to another carrier's service for processing and routing.

*IAP.* Intercept access point is a point within a carrier's system where some of the communications or call-identifying information of an intercept subject's equipment, facilities, and services are accessed.

*In-band and out-of-band signaling* . Capability that permits a LEA to be informed when a network message that provides call identifying information (e.g., ringing, busy, call waiting signal, message light) is generated or sent by the IAP switch to a subject using the facilities under surveillance. Excludes signals generated by customer premises equipment when no network signal is generated.

*J-STD-025.* The interim standard developed by the Telecommunications Industry Association and the Alliance for Telecommunications Industry Solutions for wireline, cellular, and broadband PCS carriers. This standard defines services and features to support lawfully authorized electronic surveillance, and specifies interfaces necessary to deliver intercepted communications and call-identifying information to a LEA

*LEA.* Law enforcement agency; e.g., the Federal Bureau of Investigation or a local police department.

*Party hold, join, drop on conference calls* . Capability that permits a LEA to identify the

**Federal Communications Commission****FCC 99-230**

parties to a conference call conversation at all times.

*Subject-initiated dialing and signaling information* . Capability that permits a LEA to be informed when a subject using the facilities under surveillance uses services that provide call identifying information, such as call forwarding, call waiting, call hold, and three-way calling. Excludes signals generated by customer premises equipment when no network signal is generated.

*Timing information.* Capability that permits a LEA to associate call-identifying information with the content of a call. A call-identifying message must be sent from the carrier's IAP to the LEA's Collection Function within eight seconds of receipt of that message by the IAP at least 95% of the time, and with the call event time-stamped to an accuracy of at least 200 milliseconds.

**§ 64.2203 Capabilities that must be provided by a wireline telecommunications carrier.**

(a) Except as provided under paragraph (b), as of June 30, 2000 a cellular telecommunications carrier shall provide to a LEA the assistance capability requirements of CALEA, *see* 47 U.S.C. § 1002. A carrier may satisfy these requirements by complying with publicly available technical requirements or standards adopted by an industry association or standard-setting organization, such as J-STD-025.

(b) As of September 30, 2001 a cellular telecommunications carrier shall provide to a LEA communications and call-identifying information transported by packet-mode communications and the following capabilities:

- (1) Content of subject-initiated conference calls;
- (2) Party hold, join, drop on conference calls;
- (3) Subject-initiated dialing and signaling information ;
- (4) In-band and out-of-band signaling;
- (5) Timing information;
- (6) Dialed digit extraction.

**Federal Communications Commission                      FCC 99-230**  
**VII. APPENDIX B: MANUFACTURERS' REVENUE ESTIMATES<sup>292</sup>**

Capability	Estimated Total Revenues (\$millions)	Estimated Wireless Revenues (\$millions)	Estimated Wireline Revenues (\$millions)
J-STD-025	\$916	\$348	\$569
Subject-initiated conference calls	\$ 37 (4%, 9%)	\$ 15 (4%, 6%)	\$ 22 (4%, 12%)
Party hold, join, drop messages	\$ 64 (7%, 15%)	\$ 42 (12%, 18%)	\$ 22 (4%, 12%)
Subject-initiated dialing and signaling	\$ 35 (4%, 8%)	\$ 27 (8%, 12%)	\$ 8 (1%, 4%)
In-band and out-of-band signaling	\$ 57 (6%, 14%)	\$ 30 (9%, 13%)	\$ 27 (5%, 15%)
Timing information	\$ 20 (2%, 5%)	\$ 13 (4%, 6%)	\$ 8 (1%, 4%)
Surveillance status messages	\$ 37 (4%, 9%)	\$ 24 (7%, 10%)	\$ 13 (2%, 7%)
Continuity check tones	\$ 3 (0.3%, 0.7%)	\$ 3 (0.9%, 1.3%)	\$ 0 <sup>293</sup> (0%, 0%)
Feature status messages	\$ 40 (4%, 10%)	\$ 19 (5%, 8%)	\$ 21 (4%, 12%)
Dialed digit extraction	\$121 (13%, 29%)	\$ 60 (17%, 26%)	\$ 60 (11%, 33%)
Total punch list	\$414	\$234	\$180

<sup>292</sup> Includes revenue estimates of Alcatel Network Systems; Lucent Technologies Inc.; Motorola, Inc.; Northern Telecom Inc.; and Siemens Information and Communication Networks. Sums in below table may not add to totals due to rounding. Also, the total punch list figures include \$500,000 in estimated wireless revenues that cannot be attributed to any individual punch list capability. The figures in parentheses are revenue estimates for punch list capabilities as percentages of J-STD-025 and total punch list, respectively.

<sup>293</sup> Actual figure is about \$200,000.

**Federal Communications Commission                      FCC 99-230**  
**VIII.    APPENDIX C: COMMENTING PARTIES<sup>294</sup>**

Comments to Further NPRM

AirTouch Communications, Inc.  
American Mobile Satellite Corporation  
AT&T Corp.  
Ameritech Corporation  
Bell Atlantic  
Bell Atlantic Mobile, Inc.  
BellSouth Corporation, Inc., BellSouth Telecommunications, Inc., BellSouth Cellular Corp.,  
BellSouth Personal Communications, Inc., and BellSouth Wireless Data, L.P.  
Cellular Telecommunications Industry Association  
Center for Democracy and Technology  
Department of Justice and Federal Bureau of Investigation  
Drug Enforcement Administration  
Electronic Privacy Information Center, Electronic Frontier Foundation, and American Civil  
Liberties Union  
GTE Service Corporation  
ICO Services Limited  
International Association of Police Chiefs  
Metricom, Inc.  
New York City Police Department  
New Jersey State Police  
Nextel Communications, Inc.  
Personal Communications Industry Association  
Pomona (CA) Police Department  
Rural Cellular Association  
SBC Communications, Inc.  
Southern Communications Services, Inc.  
Telecommunications Industry Association  
Texas Department of Public Safety  
United States Cellular Corporation  
United States Marshals Service  
United States Telephone Association  
US West, Inc.

Reply Comments to Further NPRM

AirTouch Communications, Inc.

<sup>294</sup> Excludes informal comments.

**Federal Communications Commission****FCC 99-230**

American Mobile Telecommunications Association, Inc.  
AT&T Corp.  
Ameritech Corporation  
Bell Atlantic  
Bell Atlantic Mobile, Inc.  
BellSouth Corporation, Inc., BellSouth Telecommunications, Inc., BellSouth Cellular Corp.,  
BellSouth Personal Communications, Inc., and BellSouth Wireless Data, L.P.  
Cellular Telecommunications Industry Association  
Center for Democracy and Technology  
Department of Justice and Federal Bureau of Investigation  
Electronic Privacy Information Center, Electronic Frontier Foundation, and American Civil  
Liberties Union  
MCI WorldCom Inc  
Motorola, Inc.  
Moultrie Independent Telephone Company  
New Jersey State Police  
New York City Police Department  
Nextel Communications, Inc.  
Pennsylvania State Police  
Personal Communications Industry Association  
Pomona (CA) Police Department  
PrimeCo Personal Communications, L.P.  
SBC Communications, Inc.  
Southern Communications Services, Inc.  
Sprint PCS  
Telecommunications Industry Association  
Texas Department of Public Safety  
United States Telephone Association  
US West, Inc.

Comments to May 1999 Public Notice

AirTouch Communications, Inc.  
Bell Atlantic  
BellSouth Corporation  
Cellular Telecommunications Industry Association

**Federal Communications Commission****FCC 99-230**

Department of Justice and Federal Bureau of Investigation  
Omnipoint Communications Services LLC  
Personal Communications Industry Association  
PrimeCo Personal Communications, L.P.  
SBC Communications, Inc.  
Sprint PCS  
Texas Advisory Commission on State Emergency Communications and Texas Emergency  
Communication Districts  
United States Telephone Association  
US West, Inc.

Reply Comments to May 1999 Public Notice

AirTouch Communications, Inc.  
BellSouth Corporation  
Cellular Telecommunications Industry Association  
Department of Justice and Federal Bureau of Investigation  
GTE Service Corporation  
MCI WorldCom, Inc.  
SBC Communications, Inc.  
United States Telephone Association